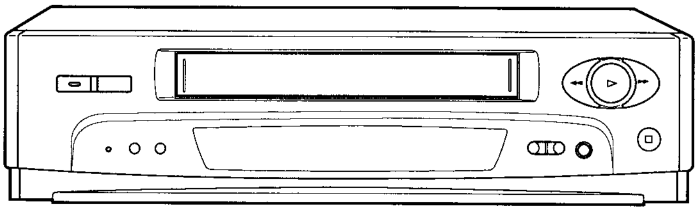
1996

MITSUBISHI

Service Manual

VIDEO CASSETTE RECORDER

VHS
PAL



MODEL
HS-651V(B)
HS-651V(E)
HS-651V(G)
HS-651V(IR)
HS-651V(Y)

Only cassettes marked VHS can be used with this video cassette recorder.

SPECIFICATION

Tape Format : VHS 1/2" high-density video cassette tape
Power Source : AC 230V ; 50Hz
Power Consumption : Approx. 32W
Television System : 625lines, 50fields
System CCIR B&G PAL [(E)/(Y)/(G)]
System CCIR I PAL [(B)/(IR)]
Video Recording System : Azimuth helical scanning system
Luminance : Frequency modulation recording
Colour Signal : Low frequency conversion subcarrier phase shift recording
Hi-Fi Audio Recording System : Azimuth helical scanning system, Frequency modulation, deep layer recording
Linear Audio Track : 1 track
Tape Speed : 23.39mm/sec (PAL SP mode)
11.70mm/sec (PAL LP mode)
Record/Playback Time : 240min. with E-240 cassette (PAL SP mode)
480min. with E-240 cassette (PAL LP mode)
Heads:Video : 4 rotary heads
Hi-Fi Audio : 2 rotary heads
Audio/Control : 1 stationary head
Erase : 1 full track head

Video Input : 0.5 to 2.0Vp-p, 75Ω unbalanced EURO AV socket
Audio Input : –8dBs, 50kΩ unbalanced EURO AV socket
Video Output : 1.0Vp-p, 75Ω unbalanced EURO AV socket
Audio Output : –6dBs, 1kΩ unbalanced EURO AV socket and RCA pin plug
TV Tuner VHF : 47~470MHz [(E)/(Y)/(G)]
44~89MHz, 104~300MHz [(IR)]
UHF : 470~862MHz[All]
Operating Temperature : 5°C to 40°C
RF Channel Output : Set to Channel 36 [(B)/(G)/(E)/(Y)]
Set to Channel 38 [(IR)]
(Channel 32~40 selectable)
Weight : Approx. 5.4kg
Dimensions : 380(W)×94(H)×330(D)mm
Timer : 8 programmes for any channels in one month/every day/every week day
24 hour digital synchronized with oscillator frequency.
Channel Selection : 60 position Up/Down + EXT
Deck : J Deck

- ●Weight and dimensions shown are approximate.
- ●Design and specifications are subject to change without notice.

MITSUBISHI ELECTRIC

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DISASSEMBLY

Note: Any screw can be used between silver screw securing the boss of the moulded parts and 669D220O30 (preferred part) for replacement because they are compatible with each other.

1. Removal of Top Cover

① Remove the two Top Cover fastening screws (ⓐ and ⓑ) shown in Fig. 1 and remove the Top Cover in the direction shown by the arrows.

2. Removal of Front Panel

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② Disconnect the connector **HZ**. (HS-651V(B) only)

③ Unfasten seven catches (ⓒ~ⓘ), two on the top, two on the side, and three on the bottom, and remove the Front Panel in the direction shown by the arrows.

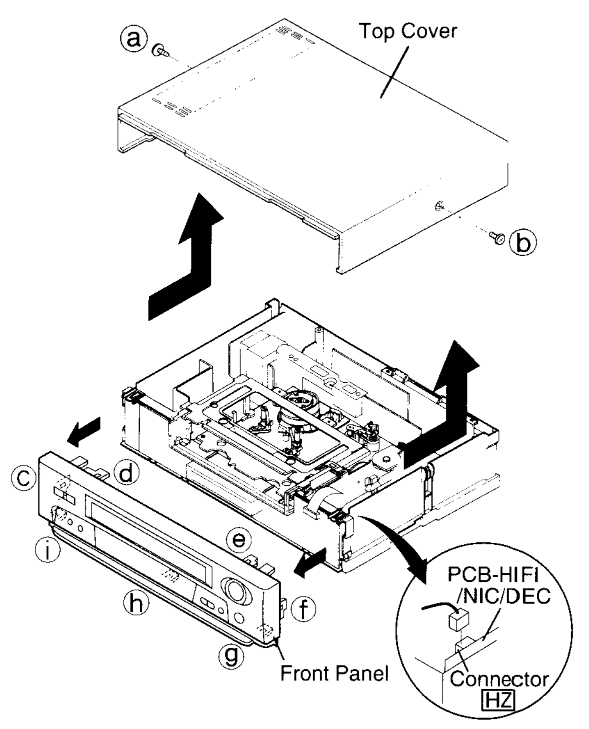


Fig. 1

4. Removal of Bottom Panel

① Remove five fastening screws (ⓐ~ⓔ) shown in Fig. 3.

② Push the two inside hooks (ⓕ and ⓖ), holding the Bottom Panel and slide the Bottom Panel toward the rear to remove it.

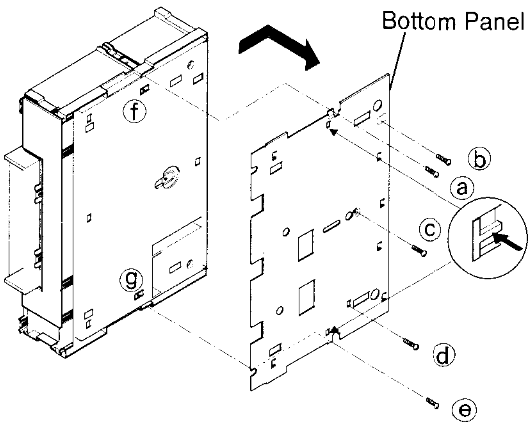


Fig. 3

5. Removal of Assy Deck

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② Remove the barrier.
(Refer to Para. 3 of the DISASSEMBLY.)

③ Remove the three fastening screws (ⓐ,ⓑ and ⓒ) on the bottom of the set shown in Fig. 4.

④ Remove the five screws (ⓓ~ⓗ) holding the Assy Deck, shown in Fig. 5, and disconnect the connectors **ML**, **MM** and **ME** .

⑤ Slowly raise the Assy Deck upward to remove it.

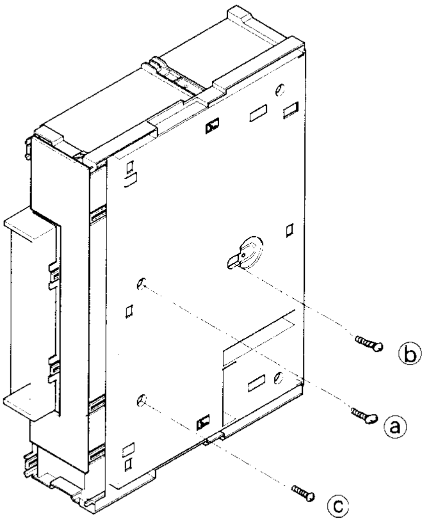


Fig. 4

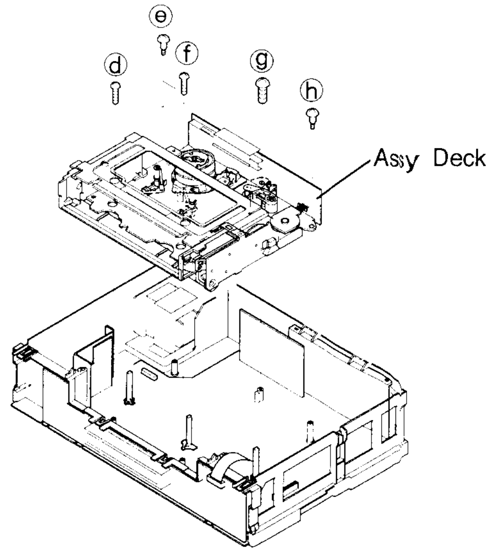


Fig. 5

HOW TO EXECUTE CIRCUIT BOARD SERVICE

CAUTION:

BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE A.C. SOURCE.

LOCATION OF PRINT CIRCUIT BOARDS

Note:

- Take caution when removing flat cables to prevent any contact problem.
- Connect and disconnect the flat cables at right angles to the connector and make sure that it is completely secured.
- After servicing the PCB, restore the flat cable and leads to their former state.

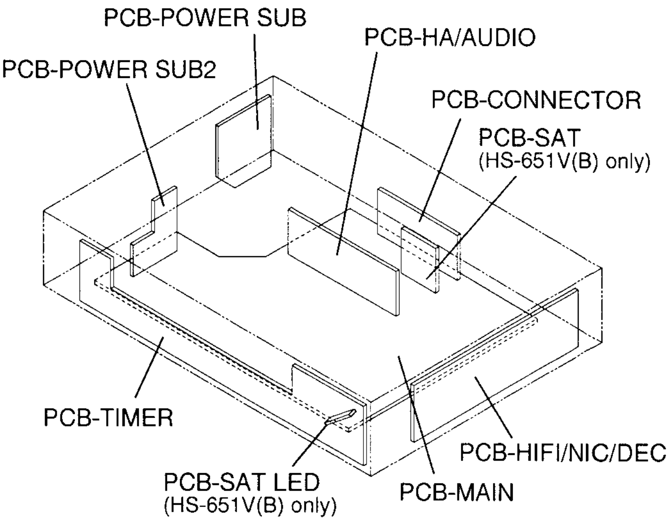

PCB-POWER SUB
PCB-HA/AUDIO
PCB-POWER SUB2
PCB-CONNECTOR
PCB-SAT
(HS-651V(B) only)
PCB-TIMER
PCB-HIFI/NIC/DEC
PCB-SAT LED
(HS-651V(B) only)
PCB-MAIN

Fig. 6

1. PCB-SAT LED (HS-651V(B) only)

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)

③ Pull the part ⓐ shown in Fig. 7 to remove the holder from the Front Panel.

④ Unfasten the two catches (ⓑ and ⓒ) and pull them in the direction shown by the arrow to remove the PCB-SAT LED.

Note : Take care to carefully handle the pin on the Front Panel, which could be broken.

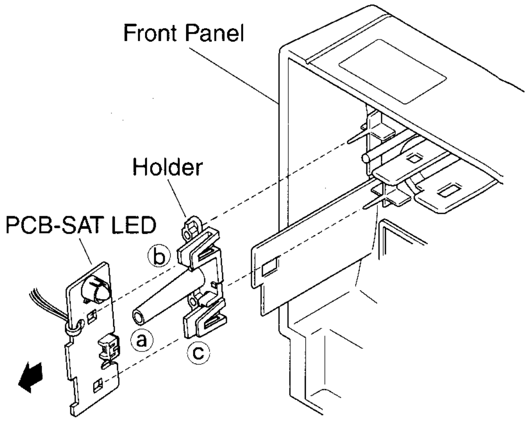

Front Panel
Holder
PCB-SAT LED
ⓑ
ⓐ
ⓒ

Fig. 7

2. PCB-HIFI/NIC/DEC

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
Servicing on the component side is possible.

② Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)

③ If it is necessary to remove the PCB-HIFI/NIC/DEC, comply with the following steps.

(1) Remove a screw (ⓐ) and unfasten two snaps (ⓑ and ⓒ) as shown in Fig. 8.

(2) Disconnect the connectors (**HB**, **HC**) and raise the PCB-HIFI/NIC/DEC upward to remove it.

Note : When servicing the PCBs, make sure that the PCB-SAT LED is connected with the connector **HZ**.

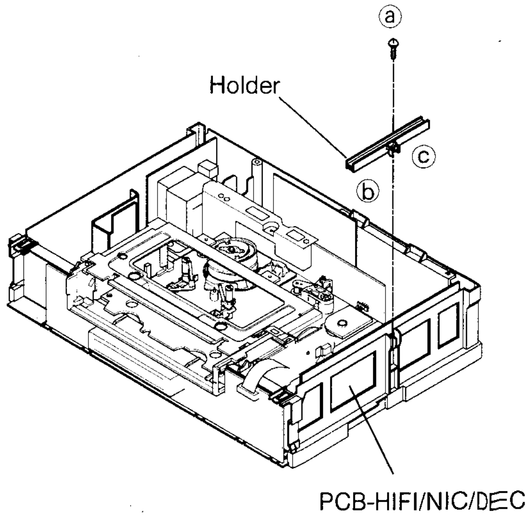

ⓐ
Holder
ⓒ
ⓑ
PCB-HIFI/NIC/DEC

Fig. 8

3. PCB-MAIN

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② Remove the barrier.
(Refer to Para. 3 of the DISASSEMBLY.)
Servicing on the components side is partially possible.

③ Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)
Remove eight fastening screws referred to as ③ and ④ in Para. 5 of the DISASSEMBLY. (Do not disconnect the connector **ML**, **MM** and **ME**.)

④ Raise the front side of the Assy Deck upward as shown in Fig. 9 and support it with a screw driver, etc. Servicing on the components side of the PCB is now possible.

⑤ Remove the PCB-HIFI/NIC/DEC.
(Refer to the proceding paragraph.)

⑥ If necessary to remove PCB-MAIN completely, remove the Assy Deck. (Refer to Para. 5 of the DISASSEMBLY.) Remove all connectors on the PCB-MAIN. Remove one fastening screw (ⓐ) on the bottom and two fastening screws (ⓑ and ⓒ) on the Antenna Cover shown in Fig. 10. Raise the PCB-MAIN upward to remove it.

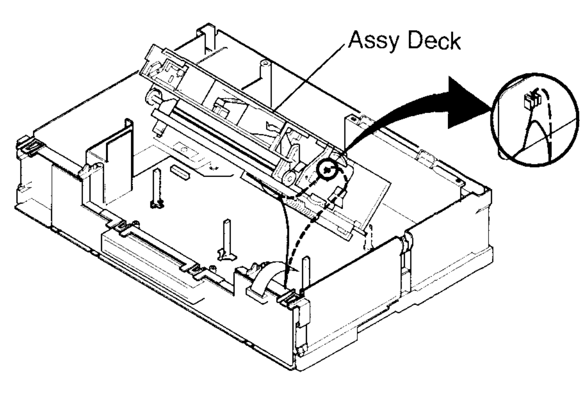


Fig. 9

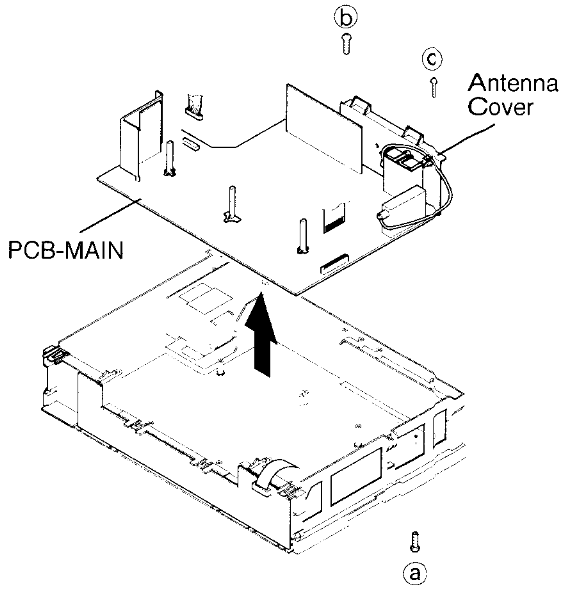


Fig. 10

* Service of Transistors (Q902, Q903, Q904 and Q911)

① Disconnect the power plug.

② Remove the four screws (ⓐ, ⓑ, ⓒ and ⓓ: 669D222090) shown in Fig. 11.

Note : Check that each transistor (Q902, Q903, Q904 and Q911) is connected to the Heat sink before turning the power on. If the power is turned on without installing the Heat sink, Q902, Q903, Q904 and Q911 are broken.

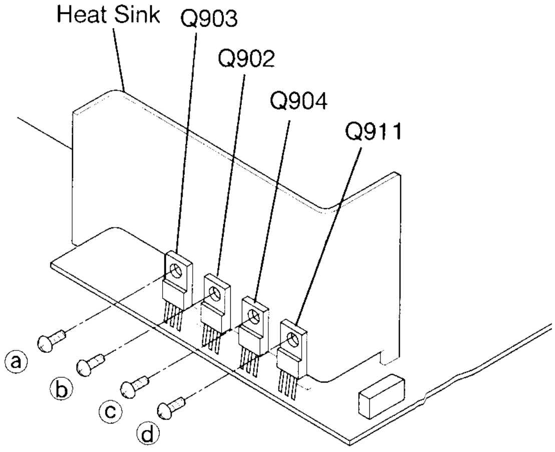


Fig. 11

4. PCB-CONNECTOR

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② If it is necessary to remove the PCB-CONNECTOR comply with the following steps.

(1) Remove the PCB-MAIN.
(Refer to the preceding paragraph.)

(2) Remove the one screw (ⓐ) shown Fig. 12.

(3) Remove four screws (ⓐ,ⓑ,ⓒ and ⓓ), unfasten five catches (ⓔ~ⓘ) on the Antenna Cover as shown in Fig.13, and remove the Antenna Cover.

(4) Raise the PCB-CONNECTOR upward to remove it.

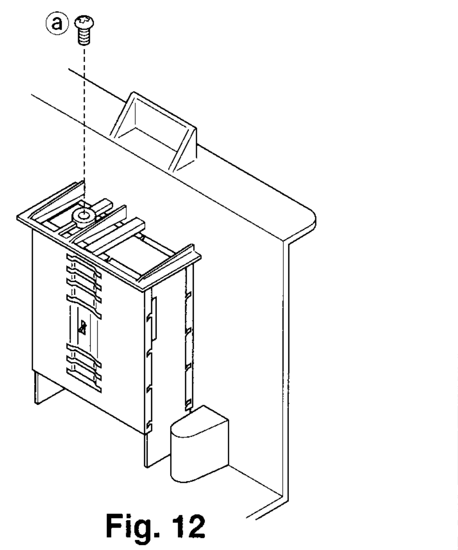


Fig. 12

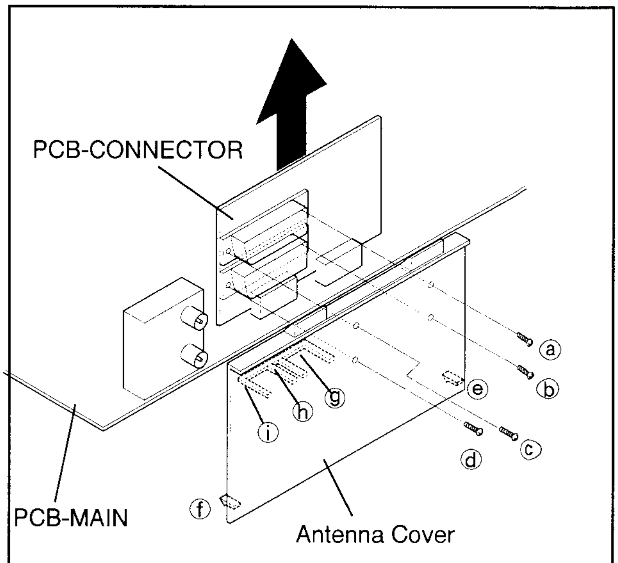


Fig. 13

5. PCB-TIMER

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)

③ Remove five catches (ⓐ~ⓔ), shown in Fig. 14, then remove the PCB-TIMER.

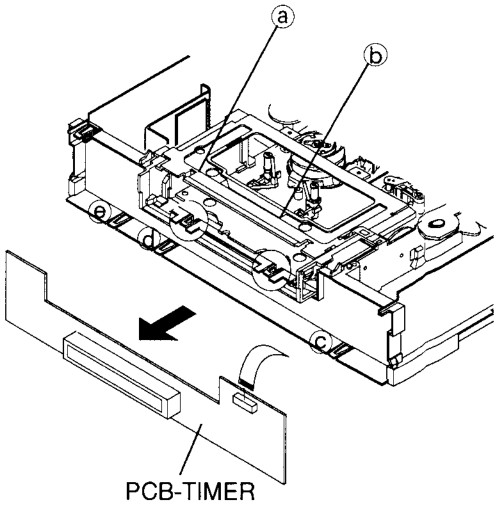


Fig. 14

6. PCB-HA/AUDIO

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② Remove the barrier.
(Refer to Para. 3 of the DISASSEMBLY.)
Servicing on the copper side is possible.

③ If necessary, remove the Assy Deck.
(Refer to Para. 5 of the DISASSEMBLY.)
Raise the Shield Cover upward to remove it. Disconnect three terminals (ⓐ,ⓑ and ⓒ), remove three fastening screws (ⓓ,ⓔ and ⓕ) shown in Fig. 15. Disconnect the connectors of Head FE, A/C Head, and Motor CP then remove the PCB-HA/AUDIO.

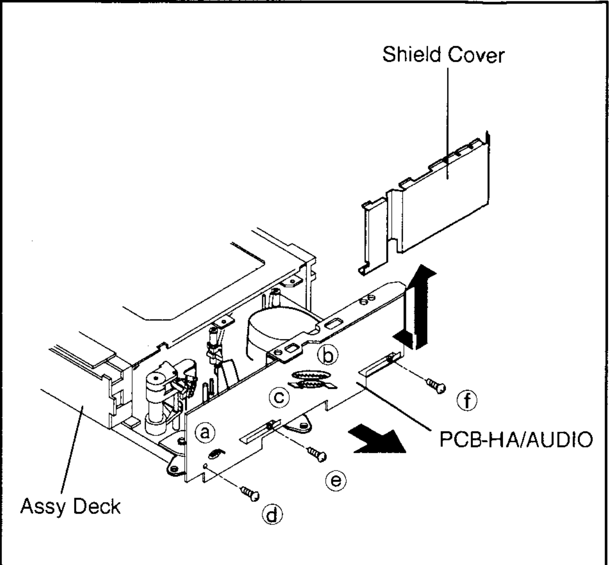


Fig.15

7. PCB-POWER SUB

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)

② Remove the barrier.
(Refer to Para. 3 of the DISASSEMBLY.)

③ Remove the holder of AC power cord from the Base Chassis shown in Fig. 16.

④ Disconnect connectors **BB** (for the Power receptacle) and **MD** on the PCB-POWER SUB.

⑤ Remove one fastening screw (ⓐ) on the bottom, shown in Fig. 16, and two screws (ⓑ and ⓒ : 669D221040). Hold the transformer, and raise the PCB-POWER SUB to remove it.

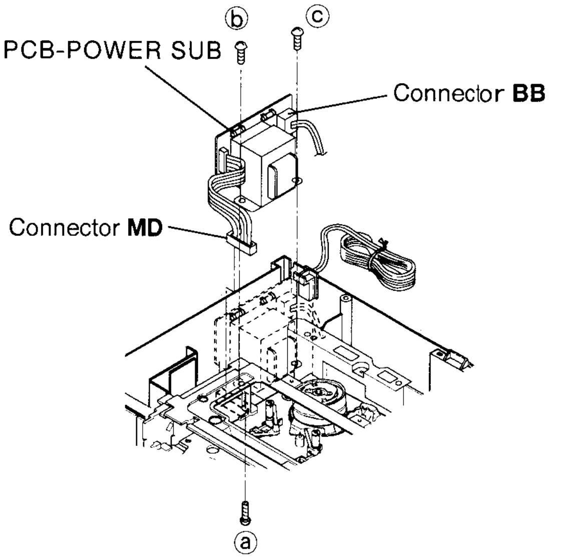


Fig.16

8. PCB-POWER SUB2

① Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
② Remove the barrier.
(Refer to Para. 3 of the DISASSEMBLY.)
③ Raise the PCB-POWER SUB2 upward to remove it.

* Service of Transistor (Q9A1)

(1) Disconnect the power plug.
(2) Remove a screw (ⓐ) shown in Fig. 17 to remove the Heat sink 1 in the direction shown by an arrow.

Note : Install Q9A1 on the Heat sink 1 and connect the PCB-POWER SUB2 to the PCB-MAIN. Then install the Heat sink 1 and turn the power on. If the power is turned on without installing PCB-POWER SUB2, Heat sink 1, Q9A1, Q902, Q903, Q904 and Q911 are broken.

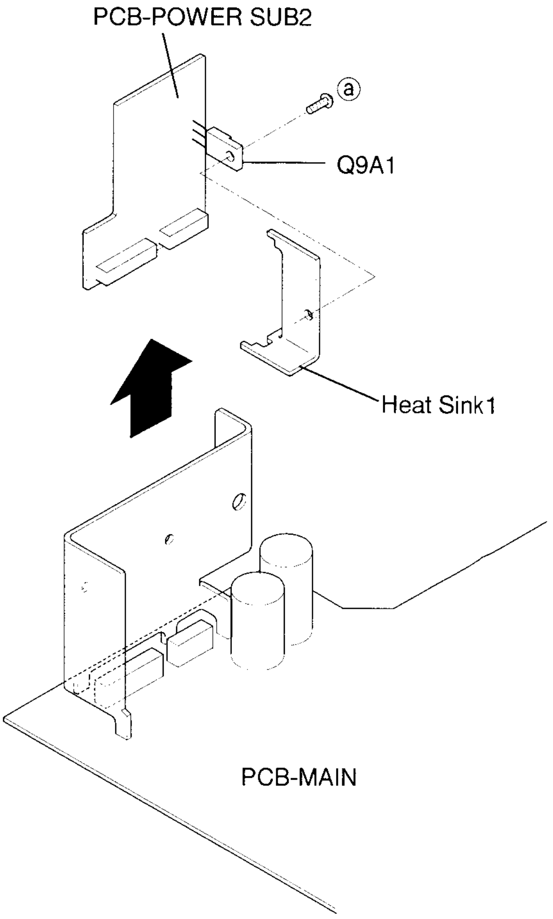
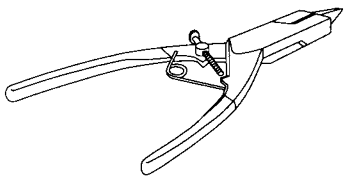
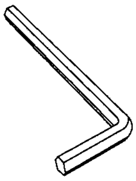
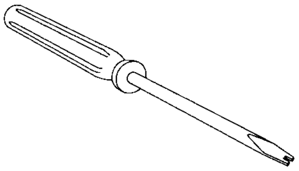
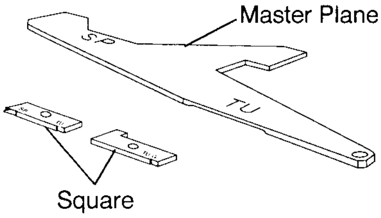
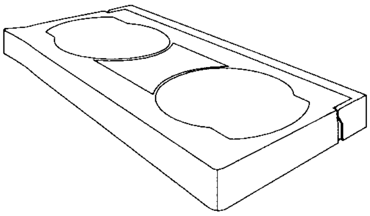
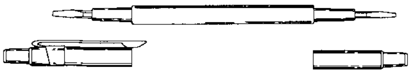
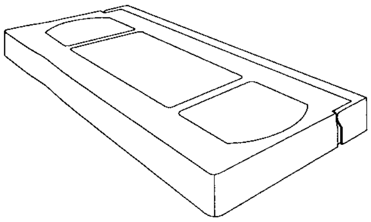


Fig. 17

MECHANICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Grip ring fixer **(859C347050)** 	A tool for preventing the grip ring from opening excessively.	Opening the grip ring with the tips of this tool, install the grip ring on to the shaft.
Hex Keys(1.5mm)  **(859C259020)**	The hex keys are used for tightening or removing hexagonal socket head screws which fasten the guide rollers.	Insert the given size(1.5mm) hexagonal socket and turn.
Adjustment Driver **(859C259080)** 	For adjustment of guide rollers.	Carefully insert and adjust guide rollers.
Height adjusting Jig **•Master Plane** **(859C342020)** **•Square** **(859C341070)** 	The master plane and the square are used for measuring height and perpendicularity of the reel disk and Takeup guide arm.	The gauge is applied to the part being measured.
Back Tension Gauge **(859C345080)** 	The back tension gauge is used for measuring the tension of the tape on the supply side.	Load this gauge in the cassette housing and run in the play mode. Read the gauge indicator.
Cotton gloves	For changing, cleaning and handling of drum, heads and guides.	Use when handling all parts in the tape path.
Grease **PG641** **(859D055030)** **G** **(859D055050)** **MULTEMP SH-M** **(859D055060)**	Lubrication of various parts.	To be applied as specified.

ELECTRICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Adjustment Driver **(859C338O00)** 767-M 	The adjustment driver is intended to adjust variable resistors, trimmers, transformers etc.in the circuitry.	Select a tip suitable for the particular head of the component concerned and adjust.
Alignment Tape **(PS-2 :859C339O10)** **(PM6KH3 :859C339O30)** **(PM3KE6(CH1) 25 :859C568O50)** **(PMX :859C568O70)** 	Standard signals(VHS Standard) are recorded on the alignment tape and reproduced when required in the adjustment of Y/C circuit, audio circuit and interchangeability alignment.	Install and run in the play mode, the same as for an ordinary tape.

HOW TO INITIALIZE THE E^{2}PROM

The E^{2}PROM is not initialized before shipping, so the E^{2}PROM must be initialized when replaced.

Initialize the E^{2}PROM by following the steps below.

1. Set the VCR to "CLOCK SET" mode.
2. Push **COUNTER RESET** button on the remote hand unit for 8 seconds.
   Note : Only GUIDE CH can be initialized.

VCR OPERATION IN SERVICE POSITIONS [B] AND [C]

Refer to page 11 for Service Position Information.

■ To activate PB, REC, FF or REW Mode (Service position [B] only)

- Cover the END SENSOR first then START SENSOR with an infra-red opaque material e.g. black vinyl tape etc..
- The reel sensor must provide input "rotating" signals to the microprocessor. To provide a dummy reel rotating signal, connect TP2H to TP5J8 on PCB-MAIN.

CAUTION:

Because the Start and End sensors are disabled there will be a risk of END of TAPE damage in REW and FF Modes.

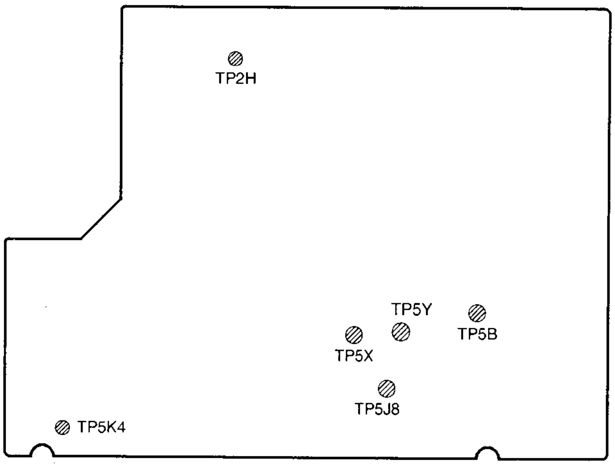
■ Ejecting a tape

When TAPE EJECT is necessary, disconnect the main supply and reinstall the DECK ASSY to the Service Position [A], restore power then EJECT the tape.

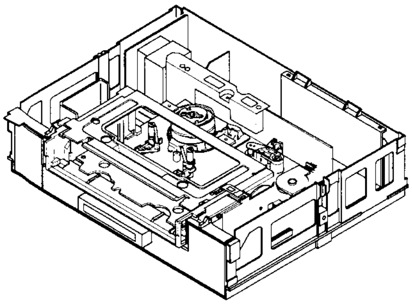
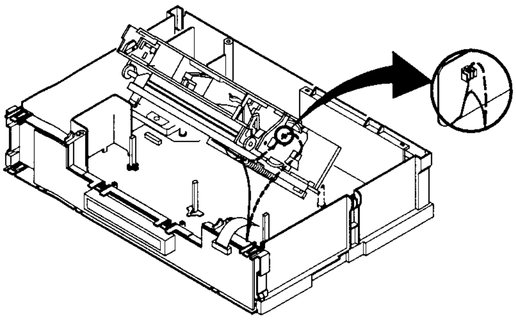
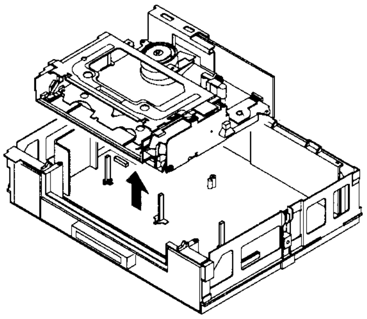
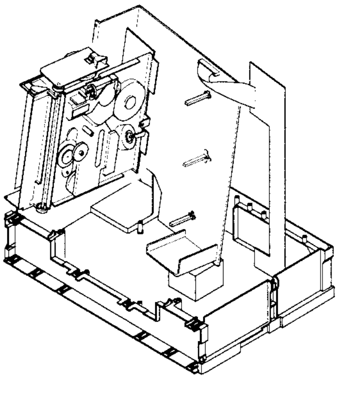
■ Record Protection Method

- To protect TEST TAPE(s) from accidental Recording (erasure) during testing, connect TP5B (STBY 5V) to TP5K4 on PCB-MAIN .

PCB-MAIN(Component side)



When replacing parts or performing service adjustments, place the unit in the service positions shown below. Refer to page 10 for additional information about Service Positions.

Service Position	Service Item
(A) 	• Remove the top cover and the front panel. (1) Worn parts on the deck (upper drum, pinch roller assembly, A/C head, and FE head) can be replaced. (2) Checks at test points may be made to isolate a problem to a specific circuit.
(B) 	• Unfasten the clamper securing ML lead wire on the desk. • Remove the screws holding the deck, raise the front of the deck upward, and hold it in place with a screw driver, etc. (1) Worn parts on the deck (reel belt, idler assembly, and capstan motor) can be replaced. (2) The performance of the deck can be checked. • The REC safety switch does not operate in position (B). • Set the deck to service position (A) and load the cassette tape. Then turn the power off and set the deck to service position (B). Cover the start and end sensors, and short-circuit test points TP2H to TP5J8. Turn the power on and play the tape. (Do not use the start or end portion of the tape.) • If it is necessary to eject the tape, turn the power off and set the deck to the service position (A). Turn the power on again and eject the tape.
(C) 	• Remove the screws holding the deck and disconnect the deck from the connector. (1) Parts on the deck (drum assembly, PCB-HA/AUDIO etc.) can be replaced. (2) The EE picture can be displayed with the deck removed by short-circuiting TP5X to TP5Y. (Short-circuit before turning the power on.) (Playback and recording operation can not be checked.)
(D) 	• Remove the PCB-TIMER and PCB-HIFI/NIC/DEC. • Remove the deck with the PCB-MAIN attached. • Position insulating cushions as, shown in Figure D, supporting the supply side of the Cassette Housing, the Deck Base and the PCB-MAIN. • Connect the PCB-TIMER and PCB-HIFI/NIC/DEC. **Note** Take care that the Deck, PCB-MAIN and inter connecting leads DO NOT touch the Power Transformer or the heat sink. (1) The foil side of the PCB-MAIN can be serviced in this position. * If the bottom cover is removed, IC5A0 and IC4A0 are accessible for service.

Electrical Adjustments

Perform only the alignments required. If proper equipment is not available, do not attempt an alignment.

PRE-ADJUSTMENT SETTINGS

- Set the "COLOUR SYSTEM" to "PAL" mode in the MENU. (Only HS-651V(Y), (E), (G))
- Set the "STEREO/A2" to "OFF" mode in the MENU. (Only HS-651V(Y))
- Set the "NICAM" to "OFF" mode in the MENU. (Only HS-651V(B), (IR))
- Set the "NICAM/A2" to "OFF" mode in the MENU. (Only HS-651V(E))
- Set the "STEREO/2-TON" to "OFF" mode in the MENU. (Only HS-651V(G))
- Set the "TAPE OPTIMIZER" to "OFF" mode in the INITIAL SET-UP of MENU. (Only HS-651V(Y),(E), (B), (IR))
- Set the "BAND OPTIMIERUNG" to "OFF" mode in the INITIAL SET-UP of MENU. (Only HS-651V(G))
- Set the "RENTAL PB" to "OFF" position.

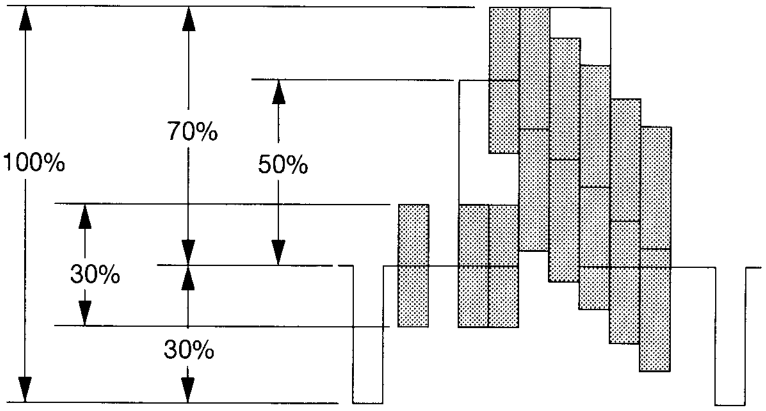
MEASURING EQUIPMENT

- Oscilloscope (10:1 Probe unless 1:1 specified.)
- Signal generator
- Frequency counter
- Audio tester
- Electrical tools

TEST SIGNAL

Colour bar signal

In this manual, unless otherwise specified in particular, use colour bar signal as specifications below.

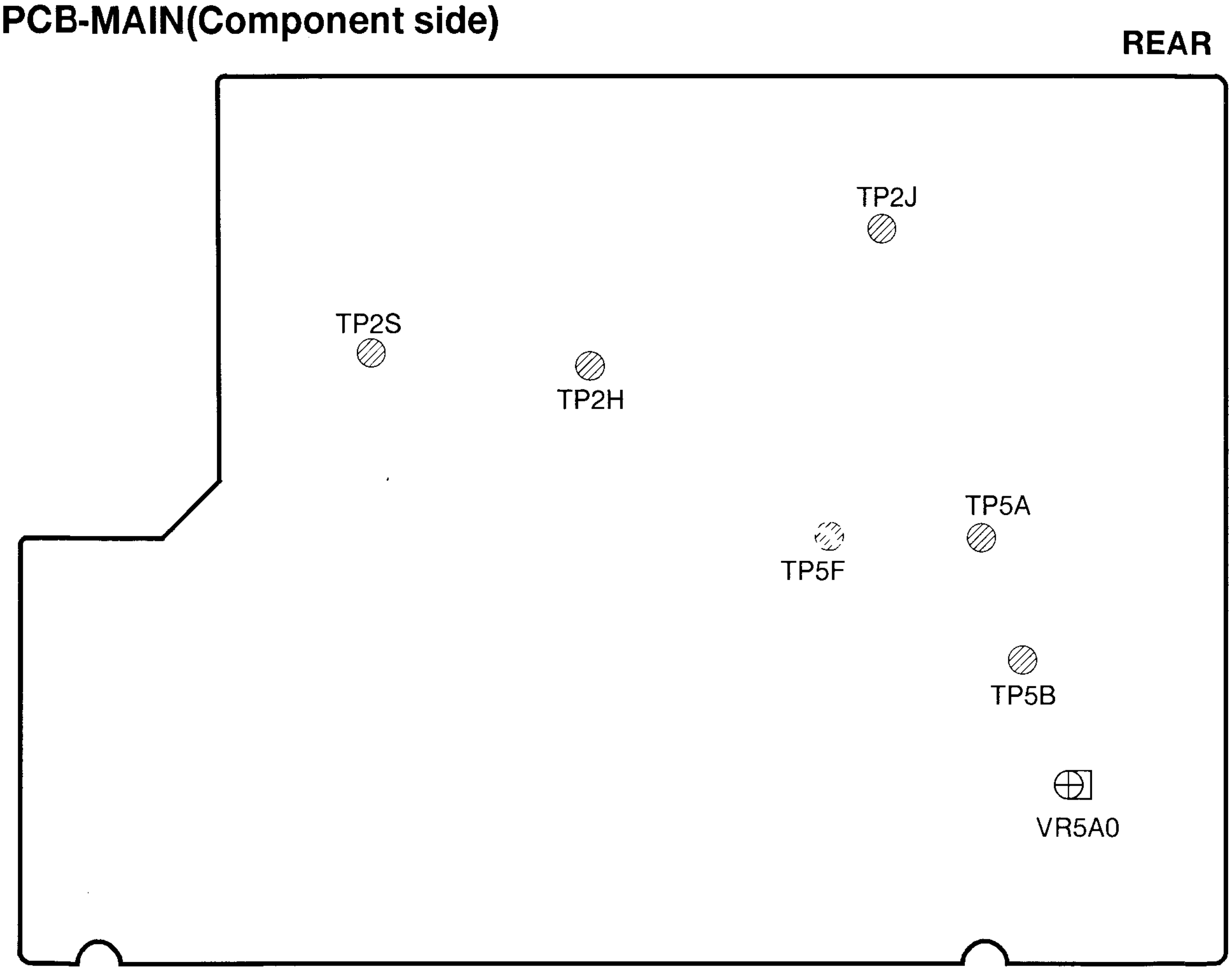


PAL

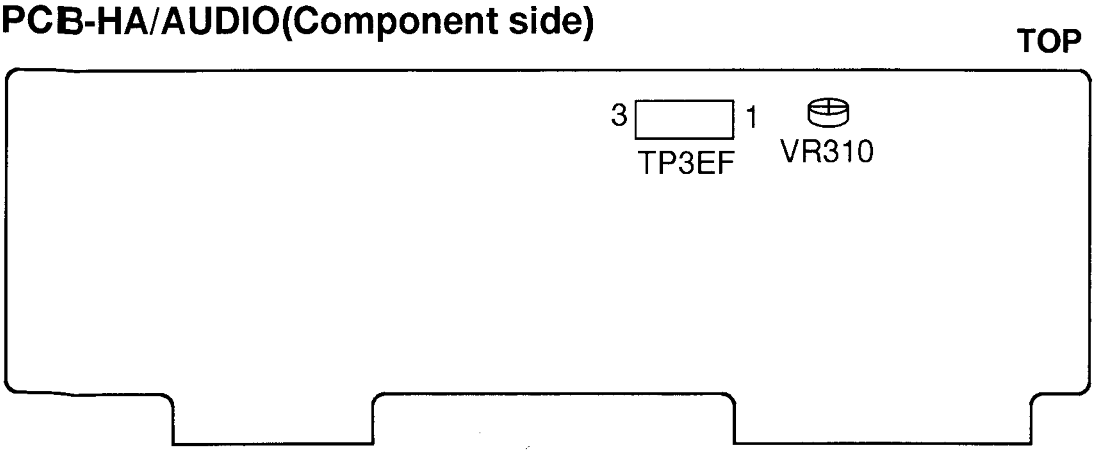
Split-Field colour bar(with 100% window)

LOCATIONS

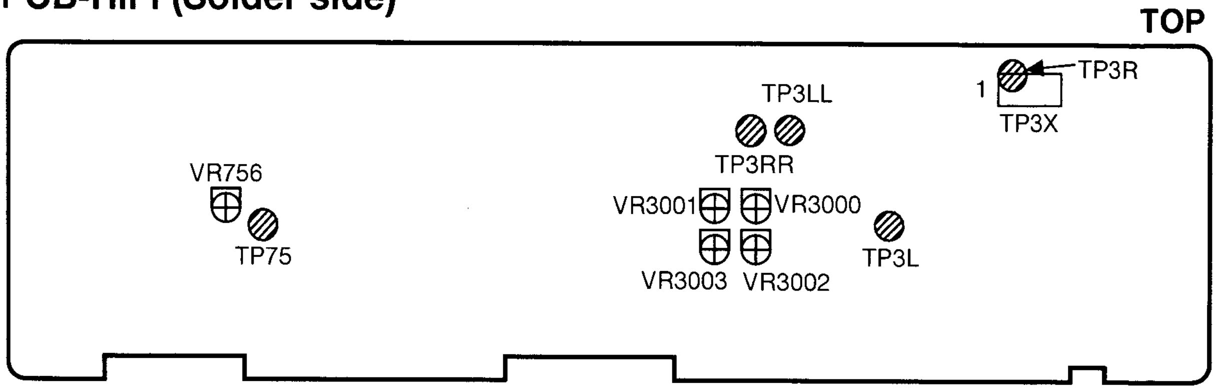
PCB-MAIN(Component side)


REAR
TP2J
TP2S
TP2H
TP5A
TP5F
TP5B
VR5A0

PCB-HA/AUDIO(Component side)


TOP
3
1
TP3EF
VR310

PCB-HIFI (Solder side)

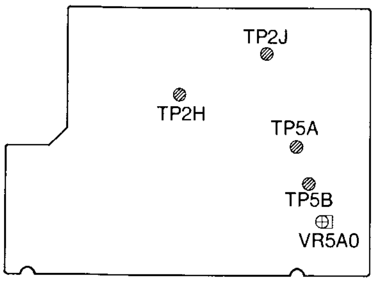

TOP
TP3R
1
TP3X
TP3LL
TP3RR
VR756
TP75
VR3001
VR3000
TP3L
VR3003
VR3002

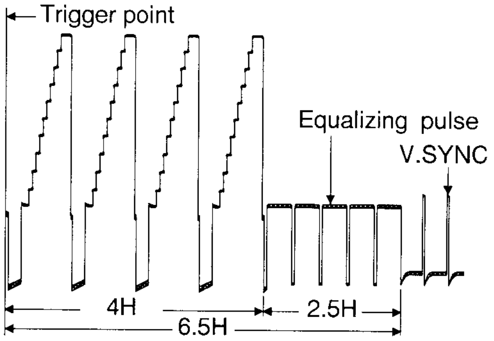
[Servo circuit] 1. Playback Switching Point	**Adjustment purpose**	Video switch over timing during playback.
	Symptom when incorrectly adjusted	Switching noise or jitter in the playback picture.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	– – –
Test point	TP2J	Using tape	Alignment tape (PS2, stair step)
EXT trigger	TP2H	VCR condition	Playback
Measurement range	DIV 20mV TIM 50μs	Using Jig	– – –

1. Playback an alignment tape (PS2, stair step).
2. Short-circuit TP5A to TP5B. Confirm that the "DTR" displayed in Fluorescent Display flashes fast.
3. Observe the waveform at TP2J.
4. Set the oscilloscope's slope to (–).
5. Adjust VR5A0 so that the trigger point is located at 6.5 ± 1.0H before the vertical synchronizing signal.

PCB-MAIN (Component side)





[Audio circuit] 2. Audio Bias Level	**Adjustment purpose**	Audio bias level during recording.
	Symptom when incorrectly adjusted	Poor audio response at high frequency.

Measuring instrument and condition		VCR set up condition	
Audio tester		Input signal	– – –
Test point	TP3EF (pin ① and pin ③)	Using tape	A blank tape
EXT trigger	– – –	VCR condition	SP REC
Measurement range	– – –	Using Jig	High pass filter

1. Set the VCR to MONO mode.
2. Supply no signal.
3. Short-circuit EURO AV socket pin ② (AUDIO IN) and pin ④ (GND) using an electrolytic capacitor (16V or more 10μF).
4. Set the VCR to SP REC mode.
5. Observe the audio level at TP3EF (pin ① (GND) and pin ③) with an Audio Tester using a high pass filter.
6. Confirm that the monitor TV etc. does not affect the indication of the audio tester and then adjust VR310 so that the level is 2.6mVr.m.s.

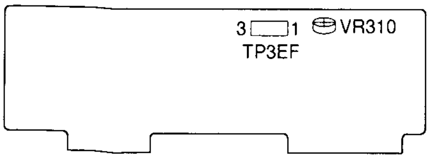
Note 1:

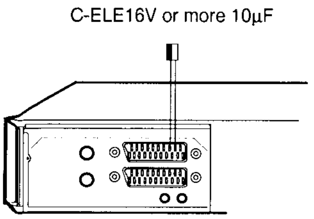
Be careful that the audio tester housing never touches the VCR chassis.

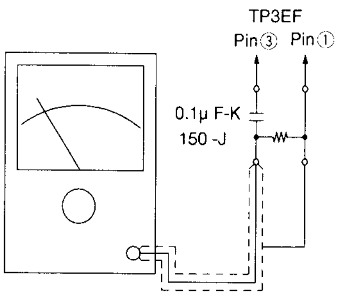
Note 2:

Never set the VCR to PLAY mode with the audio tester connected.
(The audio amplifier will be over loaded.)

PCB-HA/AUDIO (Component side)





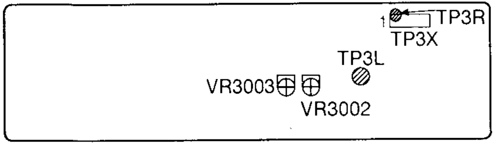


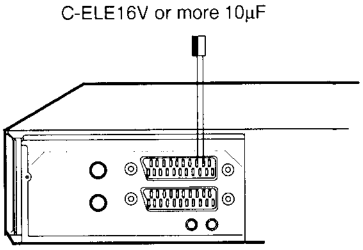
[Hi-Fi Audio circuit] 3. VCO (HS-651V(B) only)	**Adjustment purpose**	Set the FM carrier frequency of Hi-Fi audio signal.
	Symptom when incorrectly adjusted	Buzz only.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	– – –
Test point	TP3L TP3X pin ① (TP3R)	Using tape	– – –
EXT trigger	– – –	VCR condition	STOP
Measurement range	– – –	Using Jig	– – –

1. Set the VCR to STEREO mode.
2. Set the VCR to EXT(L1) mode.
3. Short-circuit EURO AV socket pin ② (AUDIO IN) and pin ④ (GND) using an electrolytic capacitor (16V or more 10µF).
4. Observe the frequency at TP3L.
5. Adjust VR3002 so that the frequency is 1.400MHz ± 3kHz.
6. Observe the frequency at TP3X pin ① (TP3R).
7. Adjust VR3003 so that the frequency is 1.800MHz ± 3kHz.

PCB-HIFI (Solder side)



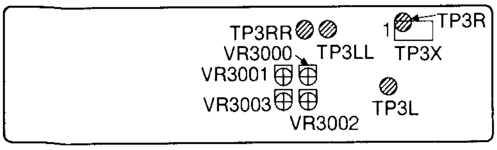


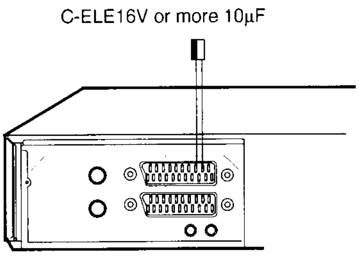
[Hi-Fi Audio circuit] 3. VCO (HS-651V(Y)/(E)/(IR)/(G) only)	**Adjustment purpose**	Set the FM carrier frequency of Hi-Fi audio signal.
	Symptom when incorrectly adjusted	Buzz only.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	– – –
Test point	TP3L TP3X pin ① (TP3R)	Using tape	– – –
EXT trigger	– – –	VCR condition	STOP
Measurement range	– – –	Using Jig	– – –

1. Set the VCR to STEREO mode.
2. Set the VCR to EXT(L1) mode.
3. Short-circuit EURO AV socket pin ② (AUDIO IN) and pin ④ (GND) using an electrolytic capacitor (16V or more 10µF).
4. Short-circuit TP3LL to TP 3X pin ③ (GND).
5. Observe the frequency at TP3L.
6. Adjust VR3002 so that the frequency is 1.300MHz ± 3kHz.
7. Open-circuit TP3LL and TP 3X pin ③ (GND).
8. Short-circuit TP3RR to TP 3X pin ③ (GND).
9. Observe the frequency at TP 3X pin ① (TP3R).
10. Adjust VR3003 so that the frequency is 1.700MHz ± 3kHz.
11. Open-circuit TP3RR to TP 3X pin ③ (GND).
12. Observe the frequency at TP3L.
13. Adjust VR3000 so that the frequency is 1.400MHz ± 3kHz.
14. Observe the frequency at TP 3X pin ① (TP3R).
15. Adjust VR3001 so that the frequency is 1.800MHz ± 3kHz.

PCB-HIFI (Solder side)

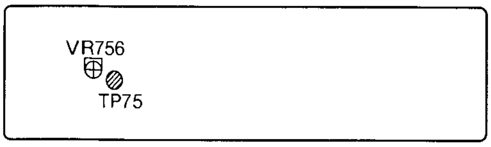




[Dual Audio circuit] 4. Channel Separation (HS-651V(Y)/(E)/(G) only)	**Adjustment purpose**	Positioning of audio separation.
	Symptom when incorrectly adjusted	Mixing audio separation.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal (Stereo sound)
Test point	TP75	Using tape	– – –
EXT trigger	– – –	VCR condition	STOP
Measurement range	DIV 5mV TIM 2ms	Using Jig	– – –

PCB-HIFI (Solder side)

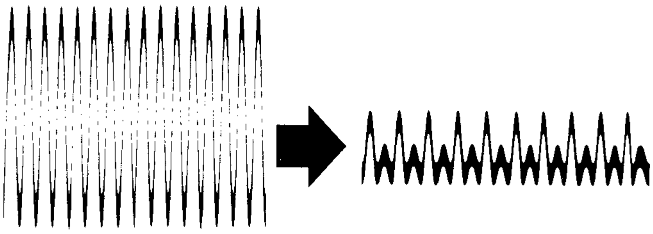


1. Supply an RF signal.

PILOT	50% AM MODULATION
RIGHT CH	1kHz,100% FM MODULATION
LEFT CH	NO MODULATION
RF INPUT	70dB μ (75 Ω LOAD)

2. Set the VCR to STEREO mode.
3. Set the VCR to TUNER mode.
4. Observe the waveform at TP75.
5. Adjust VR756 so that the audio output signal at L-CH is minimum.

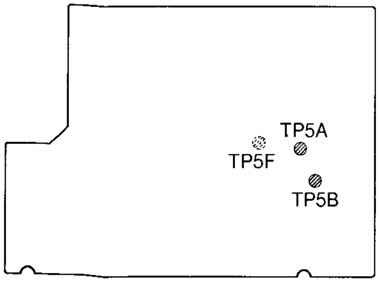
Note: This adjustment should be done precisely because it determines the separation.



[Timer circuit] 5. Clock Frequency Correction	**Adjustment purpose**	To set the accuracy of clock.
	Symptom when incorrectly adjusted	Poor clock accuracy.

Measuring instrument and condition		VCR set up condition	
Frequency Counter		Input signal	– – –
Test point	TP5F	Using tape	– – –
EXT trigger	– – –	VCR condition	Power off
Measurement range	– – –	Using Jig	– – –

PCB-MAIN (Component side)



1. Set the VCR to POWER off.
2. Short-circuit TP5A to TP5B.
3. Observe the frequency at TP5F.
4. Be certain that the frequency is between 262.1000 ~ 262.1882kHz.
5. Use the number buttons on the remote hand unit to enter the last three digits of the frequency counter reading (262.1ⓐⓑⓒkHz). Enter the digits in ⓐⓑⓒ sequence. (Confirm that the "REC" is not displayed in fluorescent display.)
6. Push the REC button on the remote hand unit. (Confirm that the "REC" is displayed in fluorescent display.)
7. Open circuit TP5A to TP5B.

MECHANICAL ADJUSTMENT AND REPLACEMENT

1.Cleaning of Deck

The following parts require cleaning whenever serviced to maintain satisfactory performance.

1-1 Video Head

A.Clean the video heads by the following method. Dust and other foreign objects on the video heads disturbs the normal playback picture:
Dampen a video head cleaning cloth with alcohol. Hold the cloth against the drum and turn the drum slowly counterclockwise to clean.

NOTE:

Do not directly touch the head attached to the upper drum. The head is very hard but brittle to impact, especially in the vertical direction.
Do not apply force in the vertical direction.

B.Allow residual alcohol to dry thoroughly before running tape. Otherwise, the liquid may stick to and damage the tape.

1-2 Tape Transport (Refer to Fig. 1-1.)

Clean the following parts of the tape transport.

1. Tension arm
2. Supply guide pole
3. FE head
4. ASSY IMPEDANCE ROLLER
5. Supply slant pole
6. Upper and lower drum
7. Takeup slant pole
8. A/C head
9. Takeup guide pole
10. Capstan shaft
11. Takeup guide arm
12. Supply guide roller
13. Takeup guide roller
14. Pinch roller

A.Clean the tape transport using gauze dampened with alcohol,except the supply guide roller, takeup guide roller and pinch roller. If Guide rollers and pinch roller are stained with dust,clean them with dry gauze or replace them with new parts.

B.Allow residual alcohol to dry thoroughly before running a tape. Otherwise the liquid may stick to and damage the tape.

1-3 Reel Disk Drive System

Clean the reel disk braking surfaces and the reel belt.

A.Clean the reel disk braking surfaces with gauze dampened with alcohol.
- After the alcohol dries completely, perform "Adjustment of Back Tension and Tension Pole Position" (Item 3-1).

B. If the Reel belt is stained with dust, clean it with dry gauze or exchange it for a new part.

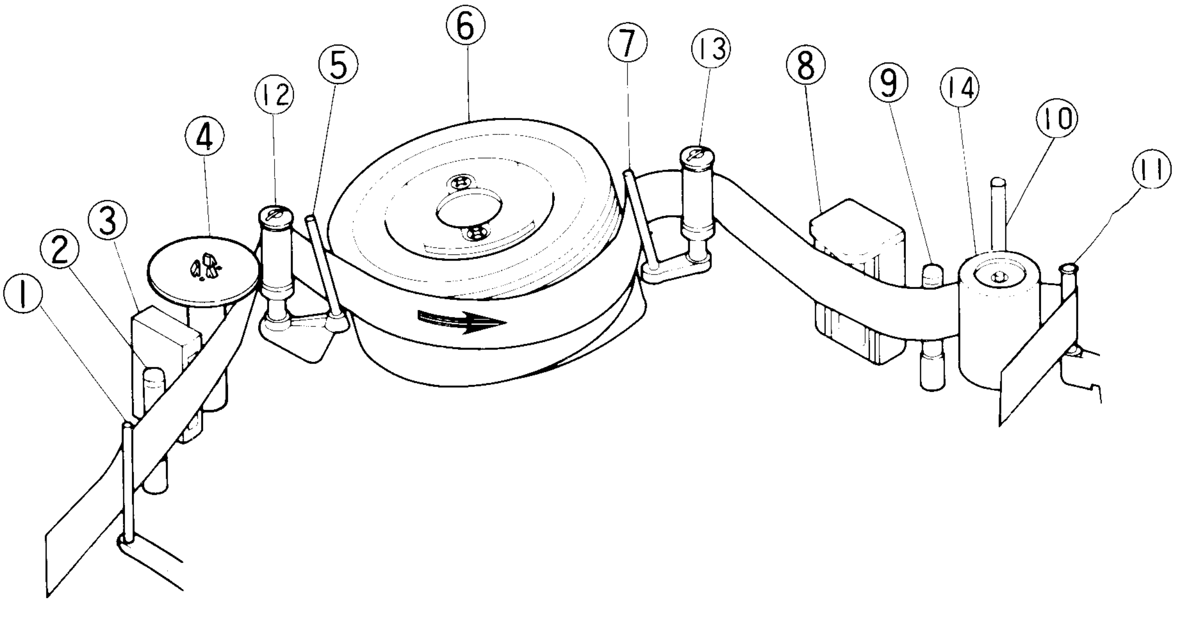


Fig. 1-1

2. Replacement of Major Parts

2-1 Cassette Housing

(Removal)

① Set the VCR to the eject mode.

② Remove the top cover and the front panel.

③ Unfasten the clamp holding the lead of the loading motor, which is attached to the side plate of the cassette housing. Unscrew the two cassette housing fastening screws (ⓐ and ⓑ). Slowly raise the cassette housing in the direction shown by the arrow. (Refer to Fig. 2-1-1.)

(Installation)

① Make sure that the holes (matching mark M) on the body and cogwheel of the mode switch align with each other as shown in Fig. 2-1-2. At the same time confirm that the hole of the gear pinch aligns with the matching marks of the gear joint J and the ▽ mark on the mode switch cogwheel,refer to Fig. 2-19-5. This indicates the J deck is in the EJECT mode.

② If the deck is not completely set to the eject position, turn part A of the pulley worm J by hand to set the eject position. (Refer to Fig. 2-1-4)
Turn in the direction a •••••••for loading
Turn in the direction b •••••••for unloading

③ Slowly lower the cassette housing onto the main plate of the deck.

④ Make sure the record safety lever enters between the insert guide of the cassette housing and the shaft as shown in Fig. 2-1-3. Align the four points (ⓒ, ⓓ, ⓔ and ⓕ), located on the bottom of the housing with the matching holes in the deck. Secure the cassette housing on the deck with the two screws (ⓐ and ⓑ). (Refer to Fig. 2-1-1.)

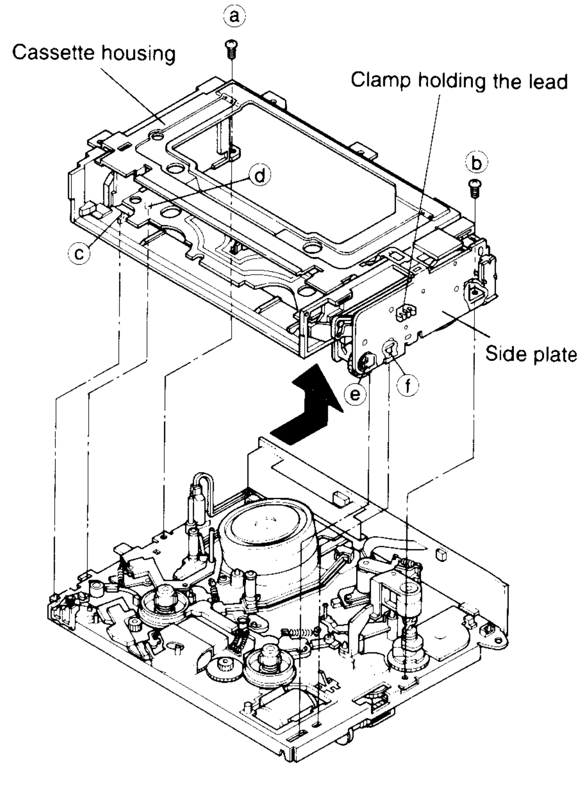

ⓐ
Cassette housing
Clamp holding the lead
ⓑ
ⓓ
ⓒ
Side plate
ⓔ
ⓕ

Fig. 2-1-1

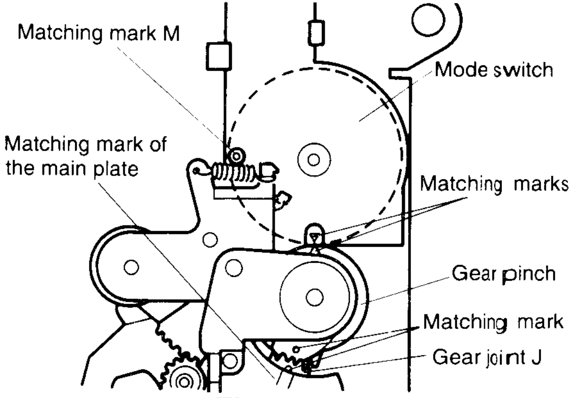

Matching mark M
Mode switch
Matching mark of the main plate
Matching marks
Gear pinch
Matching mark
Gear joint J

Fig. 2-1-2

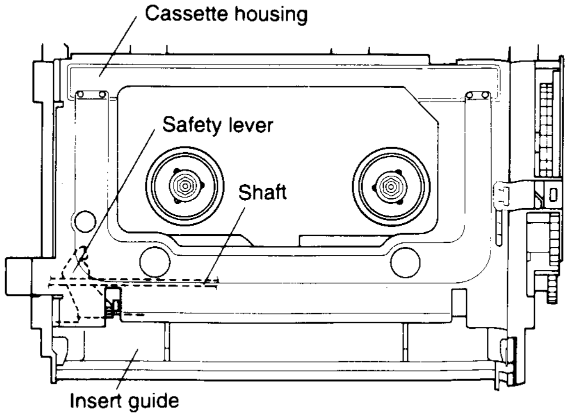

Cassette housing
Safety lever
Shaft
Insert guide

Fig. 2-1-3

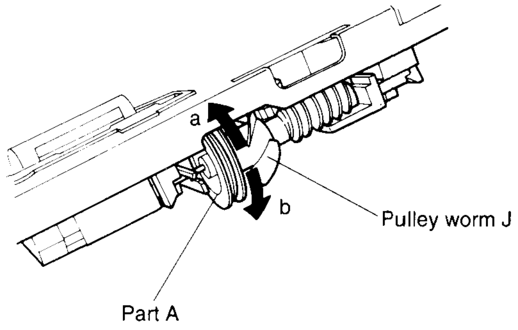


Fig. 2-1-4

2-2 Sens Gear, Drive Gear, Takeup Arm, and Arm Spring (TU)

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)

② Unfasten the four catches (ⓐ, ⓑ, ⓒ and ⓓ) as shown in Fig. 2-2-1 and remove the side plate.

③ Remove the sens gear.

④ Pull the lock levers on both the supply and takeup sides, shown in Fig. 2-6-1, in the direction shown by the arrow to shift the bottom plate to the position shown in Fig. 2-6-2.

⑤ Remove the takeup arm.

⑥ To remove the drive gear from the sens gear, turn and pull the drive gear in the direction shown by the arrow shown in Fig. 2-2-3.

⑦ Remove the arm spring (TU) from the takeup arm as shown in Fig. 2-2-4.

(Installation)

① Apply the grease (MULTEMP SH-M)[859D055060] to the area of the new takeup arm shown in Fig. 2-2-4.

② Apply the grease (MULTEMP SH-M)[859D055060] to the area shown in Fig. 2-2-5 of the new sens gear.

③ Apply the grease (MULTEMP SH-M)[859D055060] to the area shown in Fig. 2-2-6 of the new sens gear.

④ Place the clip spring on the drive gear hooking one end under the catch as shown in Fig. 2-2-5. Install the sens gear on the drive gear so that hole A aligns with hole B. Hold the sens gear while turning the drive gear clockwise, in so doing engage the other end of the clip spring with the catch of the sens gear. The projection A of the sens gear must enter the hole B of the drive gear.

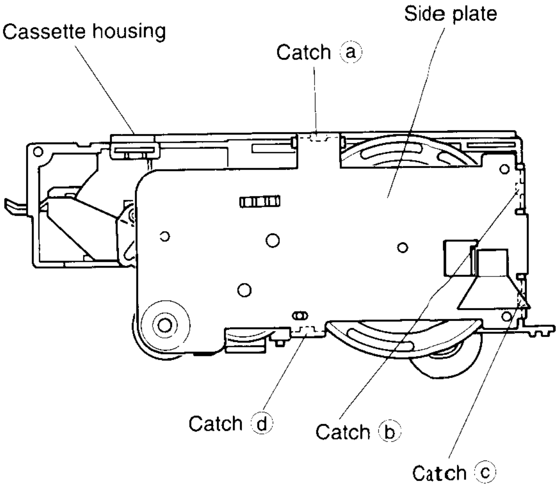


Fig. 2-2-1

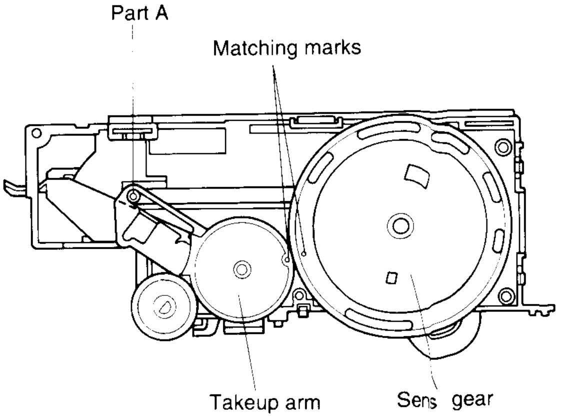


Fig. 2-2-2

⑤ Ensure the spring action is effective by holding the sens gear and turning the drive gear slightly clockwise, observing whether the drive gear returns when released.

⑥ Apply the grease (MULTEMP SH-M)[859D055060] to the area of the new takeup arm shown in Fig. 2-2-7.

⑦ Install the takeup arm so that the shaft from the bottom plate enters between the takeup arm and takeup spring, after the bottom plate is in the position shown in Fig. 2-6-2.

Note: Install the takeup arm so that the engaging point between the supply arm and gear-S, and that between the takeup arm and gear-T are symmetrical as shown in Fig. 2-4-1.

⑧ Shift the bottom plate back to the eject position and install the sens gear so that the matching marks of the sens gear and the takeup arm align as shown in Fig. 2-2-2.

⑨ Install the side plate.

⑩ Install the cassette housing.
(Refer to Para. 2-1 for the installation method.)

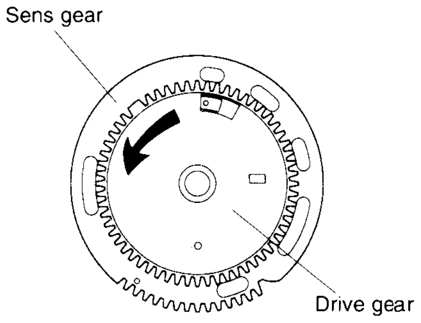

Sens gear
Drive gear

Fig. 2-2-3

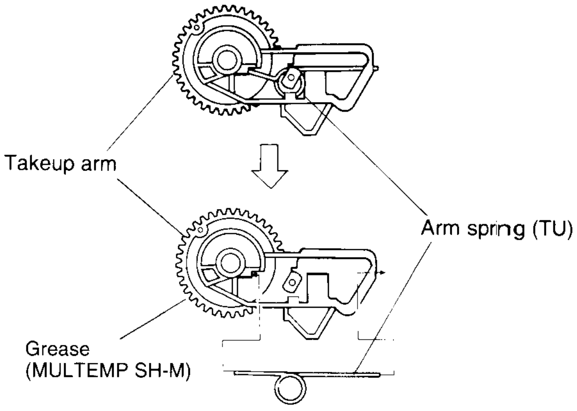

Takeup arm
Arm spring (TU)
Grease
(MULTEMP SH-M)

Fig. 2-2-4

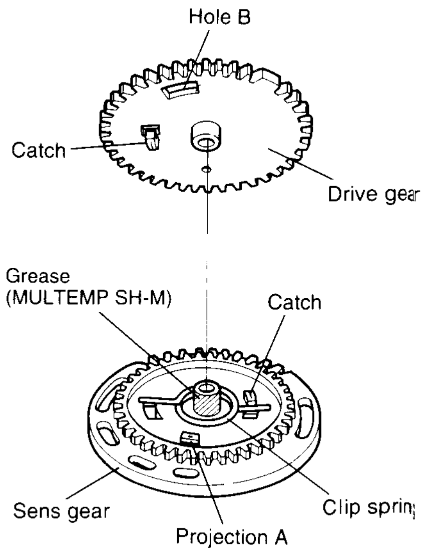

Hole B
Catch
Drive gear
Grease
(MULTEMP SH-M)
Catch
Sens gear
Clip spring
Projection A

Fig. 2-2-5

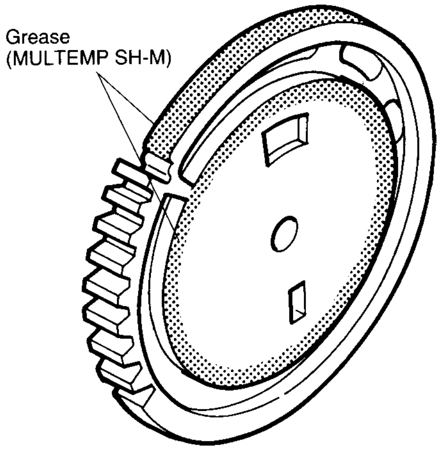

Grease
(MULTEMP SH-M)

Fig. 2-2-6

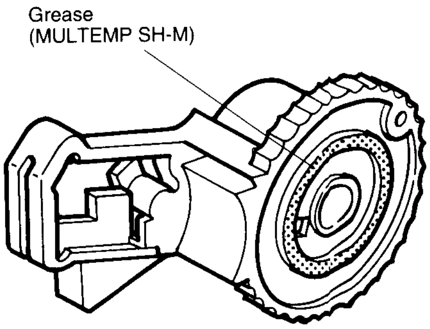

Grease
(MULTEMP SH-M)

Fig. 2-2-7

2-3 Door Arm

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)

② Remove the side plate, sens gear, and takeup arm.
(Refer to Para. 2-2 for the removal method.)

③ Unfasten the catch shown in Fig. 2-3-1 to remove the door arm. (Pull the door arm at the same time as unfastening the catch.)

(Installation)

① Fix the door arm to the shaft A shown in Fig. 2-3-1 and secure it with the catch so that the parts A and B are inside of the cassette housing, as shown in Fig. 2-3-2.

② Install the takeup arm, sens gear, and side plate.
(Refer to Para. 2-2 for the installation method.)

③ Install the cassette housing.
(Refer to Para. 2-1 for the installation method.)

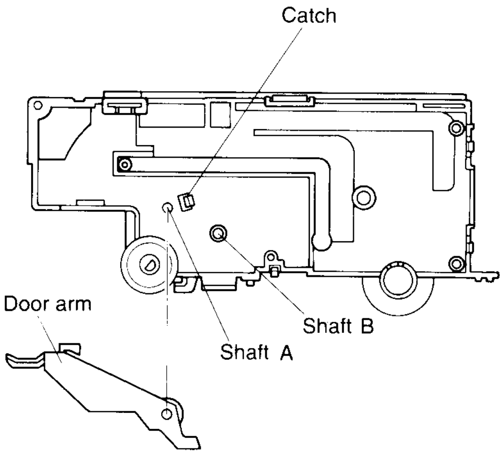


Fig. 2-3-1

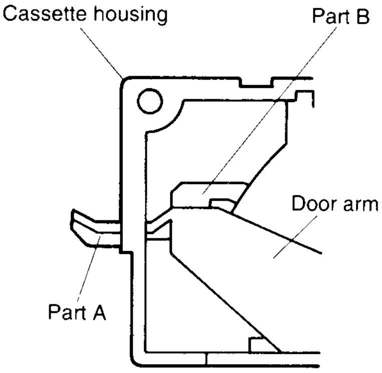


Fig. 2-3-2

2-4 Gear S and Gear T

(Removal)

① Follow the removal method in Items 1 to 5 of Para. 2-2.

② Unfasten the catch holding gear T from the inside of the cassette housing and remove the FL shaft to which the gear S and T are attached. (Refer to Fig. 2-4-2)

③ Pull out the gears S and T from the FL shaft.

(Installation)

① Fix the gear' S and T to the FL shaft.

② Install the FL shaft, first the end attached to gear T and then the end with gear S.

③ Follow the installation method in Item' 5 to 8 in Para. 2-2.

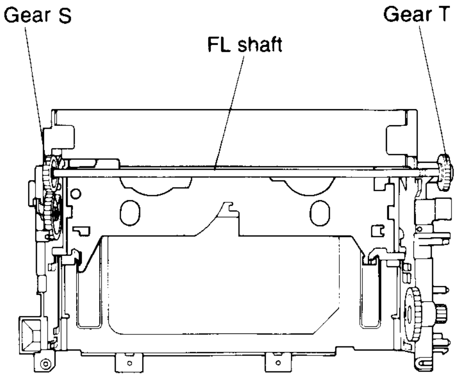


Fig. 2-4-1

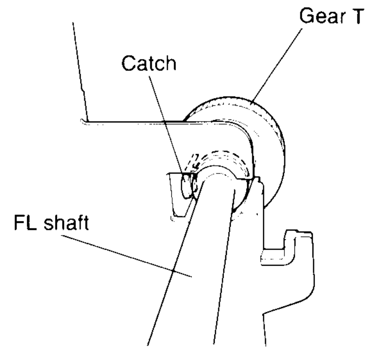


Fig. 2-4-2

2-5 Wheel Gear

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)

② Remove the side plate and sense gear.
(Refer to Para. 2-2 for the removal method.)

③ Unfasten the catch shown in Fig. 2-5-1 to remove the wheel gear.

(Installation)

① Install the wheel gear in the position shown in Fig. 2-5-1, from the inside of the cassette housing.

② Install the sens gear and side plate.
(Refer to Para. 2-2 for the installation method.)

③ Install the cassette housing.
(Refer to Para. 2-1 for the installation method.)

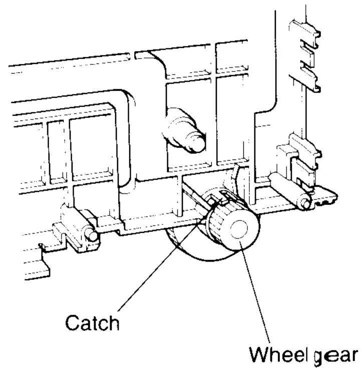


Fig. 2-5-1

2-6 Supply Arm and Arm Spring (SP)

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)

② Remove the side plate.
(Refer to Item 2 of Para. 2-2 for the removal method.)

③ Remove the sens gear.
(Refer to Item 3 of Para. 2-2 for the removal method.)

④ Pull the lock levers on both the supply and takeup side, shown in Fig. 2-6-1, in the direction shown by the arrow to shift the bottom plate to the position shown in Fig. 2-6-2.

⑤ Remove the takeup arm.
(Refer to Item 5 of Para. 2-2 for the removal method.)

⑥ Pull part A, fixed to the supply arm, in the direction shown by the arrow to remove the bottom plate.
(Refer to Fig. 2-6-3.)

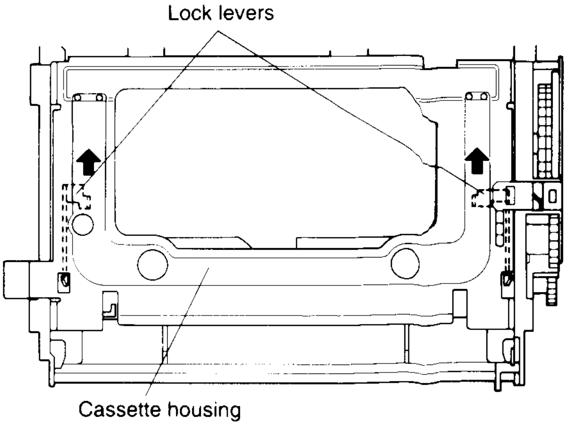


Fig. 2-6-1

⑦ Turn the supply arm in the direction shown by the arrow to shift part B, shown in Fig. 2-6-4, so that it aligns with the catch. Unfasten the catch to remove the supply arm.

⑧ Detach the arm spring from the supply arm as shown in Fig. 2-6-5.

(Installation)

① Attach the arm spring to the supply arm as shown in Fig. 2-6-5.

② Install the supply arm in the position shown in Fig. 2-6-4. (Align the catch with the part B of the supply arm.)

③ Insert the bottom plate so part A enters between the supply arm and the supply spring as shown in Fig. 2-6-3. Then install the bottom plate so that part C is in the position shown in Fig. 2-6-6.

④ Follow the installation method in Item ⑤ to ⑧ in Para. 2-2.

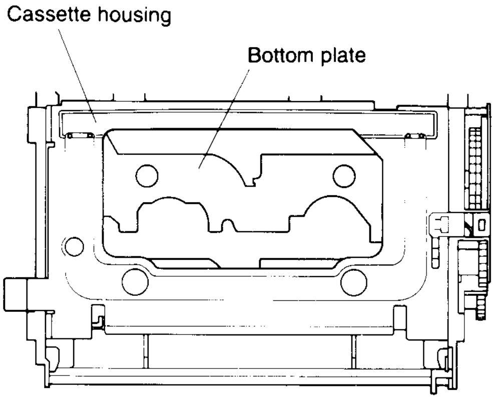

Cassette housing
Bottom plate

Fig. 2-6-2

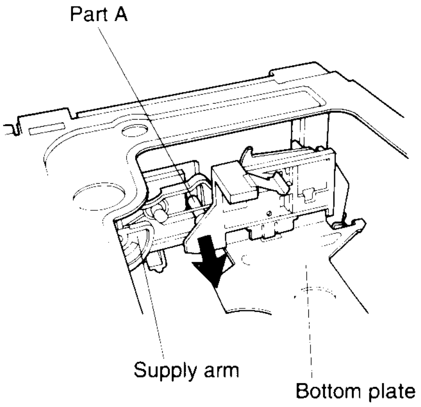

Part A
Supply arm
Bottom plate

Fig. 2-6-3

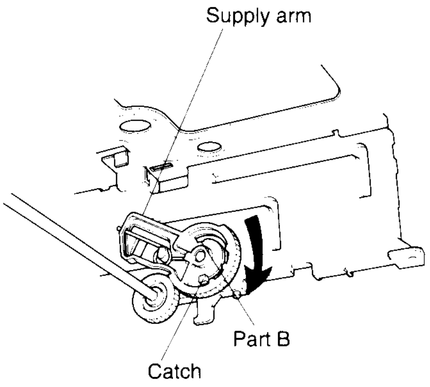

Supply arm
Part B
Catch

Fig. 2-6-4

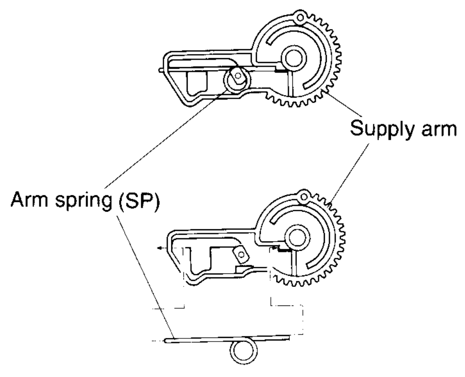

Supply arm
Arm spring (SP)

Fig. 2-6-5

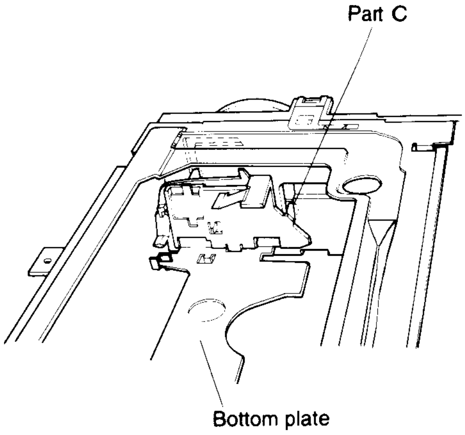

Part C
Bottom plate

Fig. 2-6-6

2-7 Jut

(Removal)

① Follow the removal method in Items ① to ⑥ of Para. 2-6.

② Unfasten the four catches (ⓐ, ⓑ, ⓒ and ⓓ) shown in Fig. 2-7-1 to remove the jut and the jut spring.

(Installation)

① Install the jut and the jut spring as shown in Fig. 2-7-1. (Insert the jut spring into the part A of the jut before installing the jut. Hook one end of the jut spring with the outside of the catch (ⓐ) and the other end with part B of the jut.)

② Install the bottom plate according to the installation method in ③ of Para. 2-6.

③ Follow the installation method in Items ⑤ to ⑧ in Para. 2-2.

2-8 PCB-HA/AUDIO

(Removal)

① Unfasten the hook and raise the head amp shield cover shown in Fig. 2-8-1 to remove it.

② Unsolder the terminals of the mode switch, the drum motor, and the rotary transformer shown in Fig. 2-8-1.

③ Lift the stopper of the A/C head assembly in Fig. 2-8-4 slightly upward and disconnect the lead connector (bare wire), connecting the PCB-HA/AUDIO and the PCB-A/C-HEAD.

④ Disconnect the lead connector (point A), connected to the FE head. (Refer to Fig. 2-8-2.)

⑤ Reverse the deck and disconnect the lead card, connecting the PCB of the capstan motor and the PCB-HA/AUDIO. (Refer to Fig. 2-8-3.)

⑥ Remove the three screws (ⓐ, ⓑ and ⓒ) and slowly pull the PCB-HA/AUDIO in the direction shown by the arrows. (Refer to Fig. 2-8-1.)

(Installation)

① Insert the terminals of the mode switch, the drum motor, and the rotary transformer, and the boss, adjacent to the mode switch, in the matching holes on the PCB-HA/AUDIO and secure the PCB-HA/AUDIO with the three screws (ⓐ, ⓑ and ⓒ) in the order, ⓑ→ⓒ→ⓐ. (Refer to Fig. 2-8-1)

② Solder the pins mentioned in Item ①.

③ Reverse the deck and reconnect the lead card connecting the PCB of the capstan motor and the PCB-HA/AUDIO. (Refer to Fig. 2-8-3) Take care not to fit lead card upside down.

④ Connect the lead connector, connected to the FE head, to the point A. (Refer to Fig. 2-8-2.)

⑤ Shift part B of the bare wire lead extended from the head amp slightly downward, lower the stopper, and connect it to the connector on the PCB-A/C-HEAD. (Refer to Fig. 2-8-4)

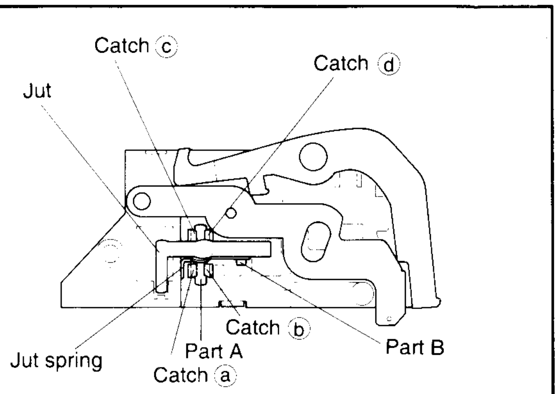

Catch ⓒ
Catch ⓓ
Jut
Catch ⓑ
Part A
Part B
Jut spring
Catch ⓐ

Fig. 2-7-1

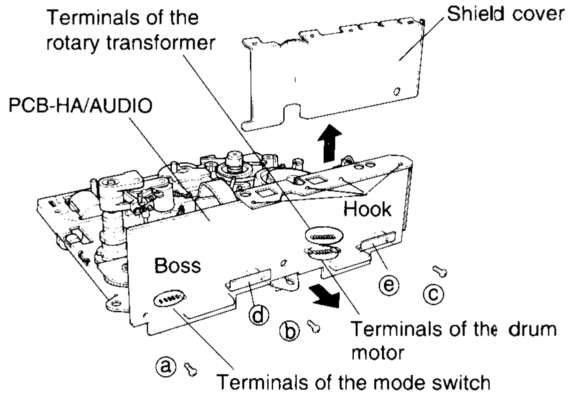

Terminals of the rotary transformer
Shield cover
PCB-HA/AUDIO
Hook
Boss
ⓔ
ⓒ
ⓓ
ⓑ
Terminals of the drum motor
ⓐ
Terminals of the mode switch

Fig. 2-8-1

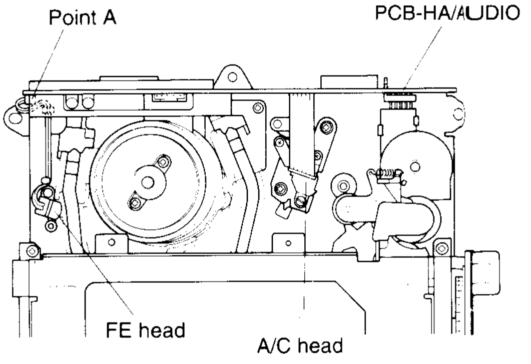

Point A
PCB-HA/AUDIO
FE head
A/C head

Fig. 2-8-2

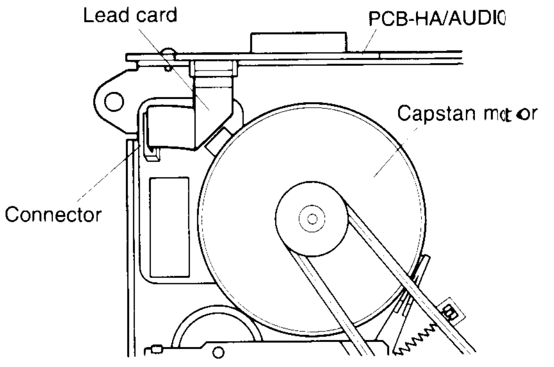

Lead card
PCB-HA/AUDIO
Capstan motor
Connector

Fig. 2-8-3

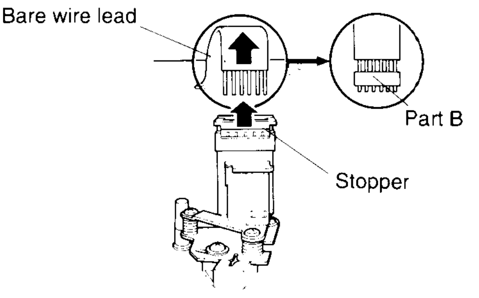


Fig. 2-8-4

2-9 Brush (Refer to the Fig.2-9-1.)

(Removal)

① Reverse the deck and remove the three screws (ⓐ, ⓑ and ⓒ) to remove the brush.

(Installation)

① Attach the brush on the position shown in Fig. 2-9-1 and secure it with the screws ⓐ and ⓑ. Tighten screw ⓒ.

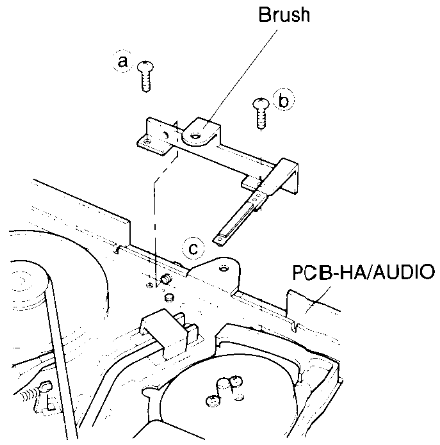


Fig. 2-9-1

2-10 Drum Assembly

Note: When removing and installing the drum assembly, do not touch the tape running surface with your hands.

Note: Take care not to bend the PCB-HA/AUDIO.

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)

② Remove the PCB-HA/AUDIO.
(Refer to Para. 2-8 for the removal method.)

③ Unscrew the three screws (ⓐ, ⓑ and ⓒ) on the reverse side of the deck and remove the drum assembly.
(Refer to Fig. 2-10-1.)

④ Slowly raise the drum assembly upward, take care not to touch other parts around it. (Do not touch the tape running surface of the drum with your hand.)

Note: During removal, support the drum assembly when it is not secured by fastening screws.

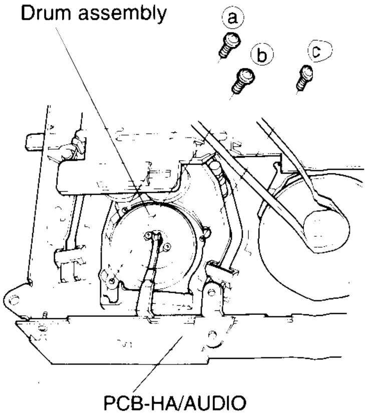


Fig. 2-10-1

(Installation)

① Carefully place the new drum assembly on the main plate of the deck, take care not to touch other parts.
② Holding the drum assembly, reverse the deck and secure the drum assembly with the three screws (ⓐ, ⓑ and ⓒ). (Tighten the screws in the order ⓐ→ⓑ→ⓒ and finally tighten again ⓐ.) (Refer to Fig. 2-10-1.)
③ Install the PCB-HA/AUDIO.
(Refer to Para. 2-8 for the installation method.)
④ Install the cassette housing.
(Refer to Para. 2-1 for the installation method.)

[Another Method]

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)
② Unsolder the soldered pins on the terminal of the drum assembly and the terminal of the rotary transformer. (Refer to Fig. 2-10-2)
③ Unscrew the three screws (ⓐ, ⓑ and ⓒ) on the reverse side of the deck and remove the drum assembly. (Refer to Fig. 2-10-1.)
④ Slightly raise the drum assembly in the opposite direction of the pins. Remove the pins of the drum assembly and of the rotary transformer from the PCB-HA/AUDIO. Slowly remove the drum assembly, take care not to touch other parts around it.

(Installation)

① Carefully place the drum assembly on the main plate, take care not to touch the other parts around it. The pins of the drum assembly and the rotary transformer must enter the holes of the PCB-HA/AUDIO.
② Secure the drum assembly with the three screws (ⓐ, ⓑ and ⓒ) on the reverse side of the deck. (Tighten the screws in the order ⓐ→ⓑ→ⓒ and finally tighten ⓐ again.) (Refer to Fig. 2-10-1.)
③ Solder the pins of the drum assembly and the rotary transformer. (Refer to Fig. 2-10-2.)
④ Install the cassette housing.
(Refer to Para. 2-1 for the installation method.)

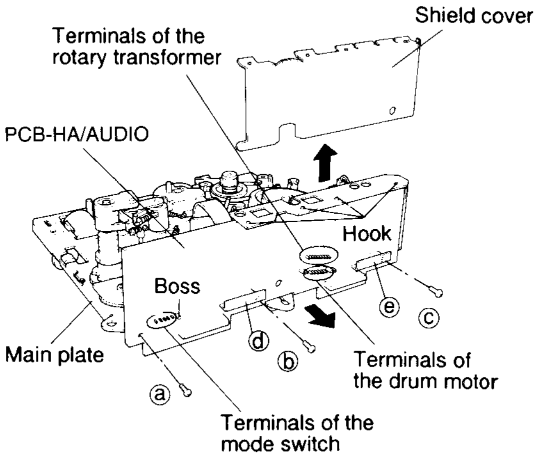

Shield cover
Terminals of the rotary transformer
PCB-HA/AUDIO
Hook
Boss
ⓔ
ⓒ
Main plate
ⓓ
ⓑ
Terminals of the drum motor
ⓐ
Terminals of the mode switch

Fig. 2-10-2

2-11 Upper Drum and Drum Motor

Note: When only the upper drum is to be replaced, follow the procedure of Items ②~④ of the removal method and ②~④ of the installation method.

(Removal)

① Remove the drum assembly.
(Refer to Para. 2-10 for the removal method.)

② Unsolder the terminals of each head on the upper drum.

③ Remove the screws holding the upper drum shown in Fig. 2-11-1.

④ Remove the upper drum slowly and carefully.

⑤ Remove the screws (ⓐ and ⓑ) shown in Fig. 2-11-1 to remove the rotor case and damper. Remove the screws (ⓒ, ⓓ and ⓔ) to remove the drum motor.

(Installation)

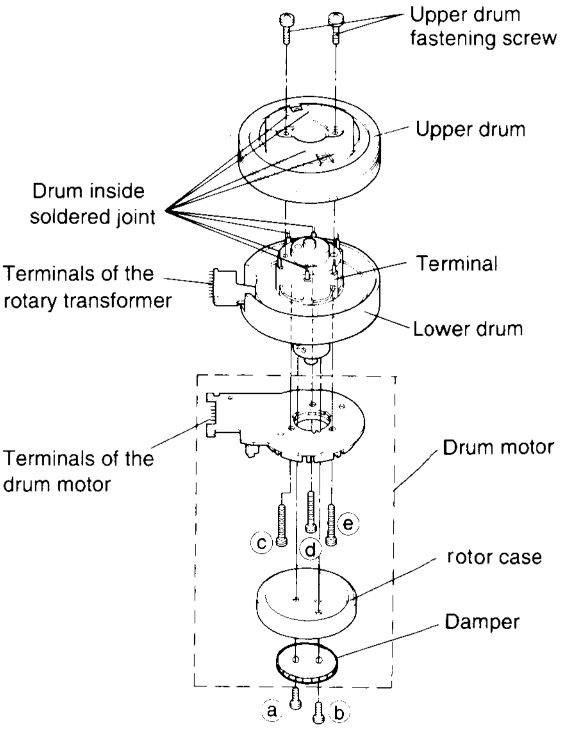
Note: Handle the upper drum carefully as the video heads are fragile.

① Attach the rotary transformer and the drum motor so that the terminals of both face in the same direction, and secure them with the screws (ⓒ, ⓓ and ⓔ).
Secure the rotor case with the screws (ⓐ and ⓑ).

② Position the white painted (shaded) area of the upper drum so that the area is 90° apart from the hole of the lower dram shaft. Insert the upper drum. Take care not to touch the head terminals. [Fig. 2-11-2]

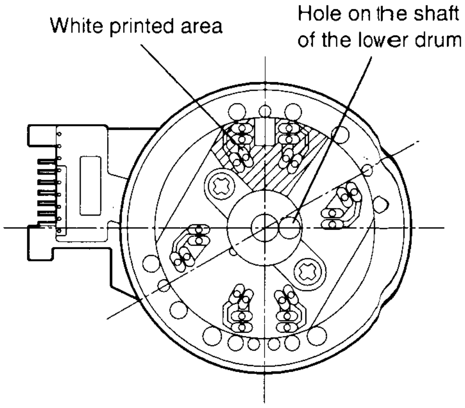
③ Secure the upper drum with the two fastening screws. (Tighten the screws alternately.)

④ Solder the terminals of each head.



Upper drum fastening screw
Upper drum
Drum inside soldered joint
Terminals of the rotary transformer
Terminal
Lower drum
Terminals of the drum motor
Drum motor
c
d
e
rotor case
Damper
a
b

Fig. 2-11-1



White printed area
Hole on the shaft of the lower drum

Fig. 2-11-2

2-12 Safety Spring and Safety Lever

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Unhook the safety spring with a tweezers.

③ Turn the safety lever clockwise and remove by raising it upward as shown in Fig. 2-12-2.

(Installation)

① Install the safety lever so that part A aligns with the hole on the main plate, shown in Fig. 2-12-1, and part B with the hole of the safety arm on the reverse side of the deck.

② Fix the safety spring to the shaft of the safety lever and hook it as shown in Fig. 2-12-3.

③ Install the cassette housing.(Refer to Para. 2-1 for the installation method.)

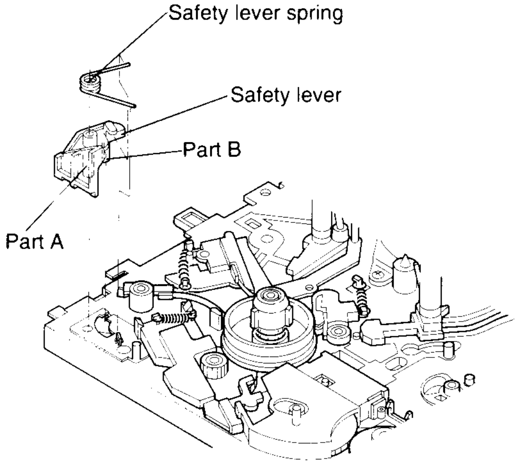

Safety lever spring
Safety lever
Part B
Part A

Fig. 2-12-1

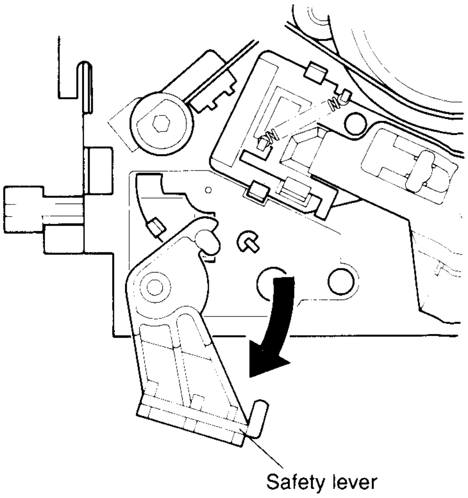

Safety lever

Fig. 2-12-2

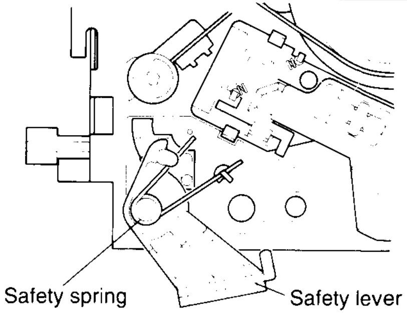

Safety spring
Safety lever

Fig. 2-12-3

2-13 Safety Arm

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the safety spring and the safety lever. (Refer to Para. 2-12 for the removal method.)

③ Unfasten the catch to remove the safety arm. (Refer to Fig. 2-13-1).

(Installation)

① Reverse the deck and fix the safety arm to the shaft of the main plate so that its catch is within the range shown in Fig. 2-13-2.

② Install the safety spring and the safety lever. (Refer to Para. 2-12 for the installation method.)

③ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

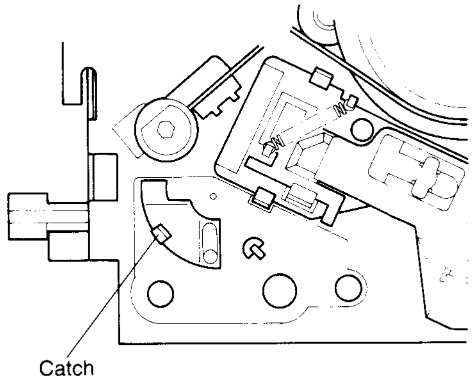


Fig. 2-13-1

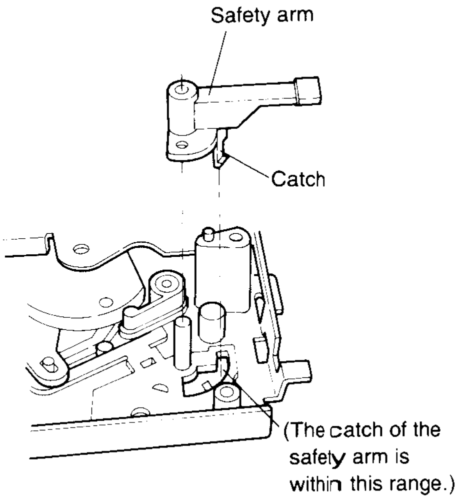


Fig. 2-13-2

2-14 Sub Brake(SP) and Sub Spring(SP)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Detach the sub spring(SP).

③ Reverse the deck and unfasten the catch with a small screw driver, etc., to remove the sub brake(SP) as shown in Fig. 2-14-2.

(Installation)

① Install the sub brake(SP) with care not to score the tension brake belt(without loosening of the tension brake belt).(Refer to Fig. 2-14-1)

② Attach the sub spring(SP).

③ Install the cassette housing.(Refer to Para. 2-1 for the installation method.)

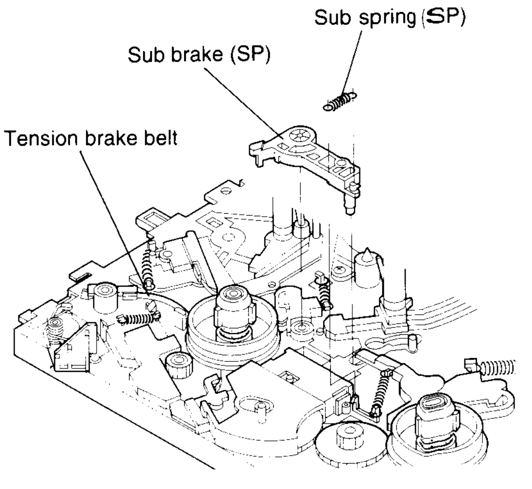


Fig. 2-14-1

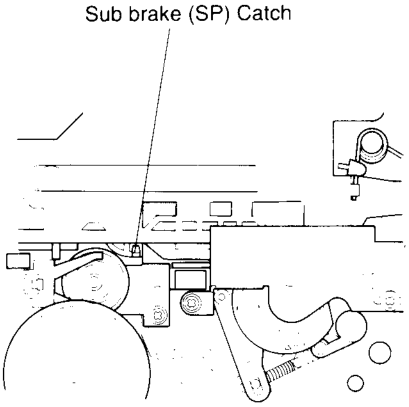

Sub brake (SP) Catch

Fig. 2-14-2

2-15 Main Brake (SP) and Main Brake Spring J(SP) (Refer to Fig. 2-15-1.)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

③ Unhook the main brake spring J(SP).

④ Raise the main brake(SP) upward to remove it.

(Installation)

① Install the main brake(SP) on the main plate and attach the main brake spring J(SP).

② Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)

③ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

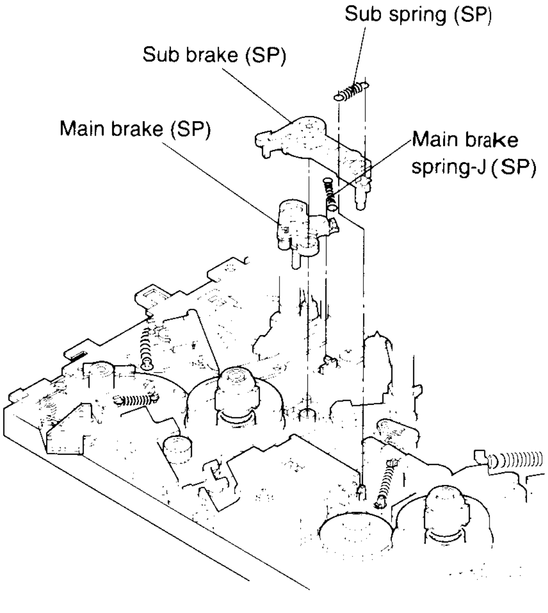

Sub spring (SP)
Sub brake (SP)
Main brake (SP)
Main brake spring-J (SP)

Fig. 2-15-1

2-16 Sub Off Lever, Sub Brake (TU), and Sub Spring (TU)

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)

② Remove the sub brake (SP) and the sub spring (SP).
(Refer to Para. 2-14 for the removal method.)

③ Unfasten the catch with a small screw driver, etc., and raise the sub off lever upward to remove it.
(Refer to Fig. 2-16-2)

④ Remove the sub spring (TU). (Refer to Fig. 2-16-1.)

⑤ Unfasten the catch with a small screw driver, etc., and raise the sub brake (TU) upward to remove it as shown in Fig. 2-16-2.

(Installation)

① Apply the grease (PG-641)[859D055O30] to the area shown in Fig. 2-16-3.

② Install the sub brake (TU) on the main plate.

③ Install the sub off lever so that the hole A aligns with the boss of the sub brake (TU) as shown in Fig. 2-16-1.

④ Install the sub spring (TU).

⑤ Install the sub brake (SP) and the sub spring (SP).
(Refer to Para. 2-14 for the installation method.)

⑥ Install the cassette housing.
(Refer to Para. 2-1 for the installation method.)

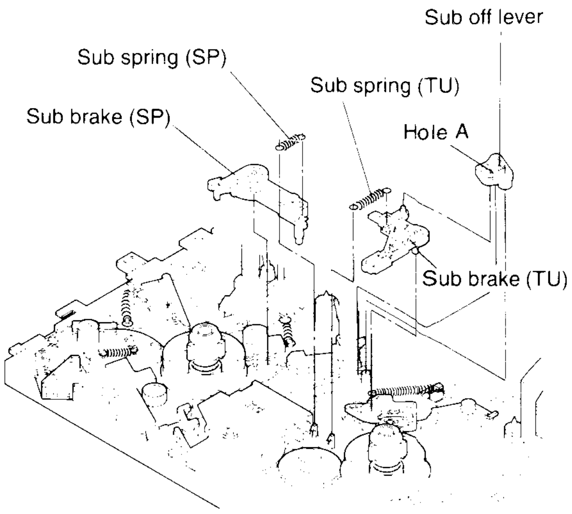

Sub off lever
Sub spring (SP)
Sub spring (TU)
Sub brake (SP)
Hole A
Sub brake (TU)

Fig. 2-16-1

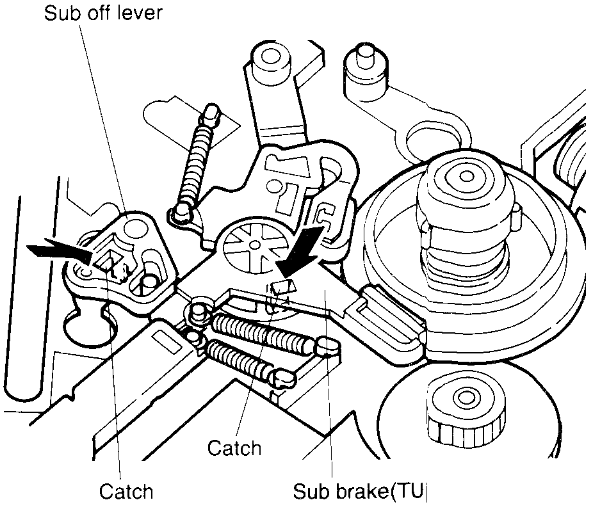

Sub off lever
Catch
Catch
Sub brake(TU)

Fig. 2-16-2

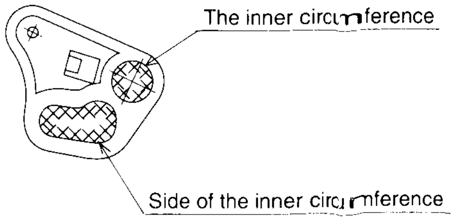

The inner circumference
Side of the inner circumference

Fig. 2-16-3

2-17 Main Brake(TU) and Main Brake Spring J(TU)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

③ Remove the sub off lever, the sub brake(TU), and the sub spring(TU). (Refer to Para. 2-16 for the removal method.)

④ Remove the main brake spring J(TU) and raise the main brake(TU) upward to remove it. (Refer to Fig. 2-17-1.)

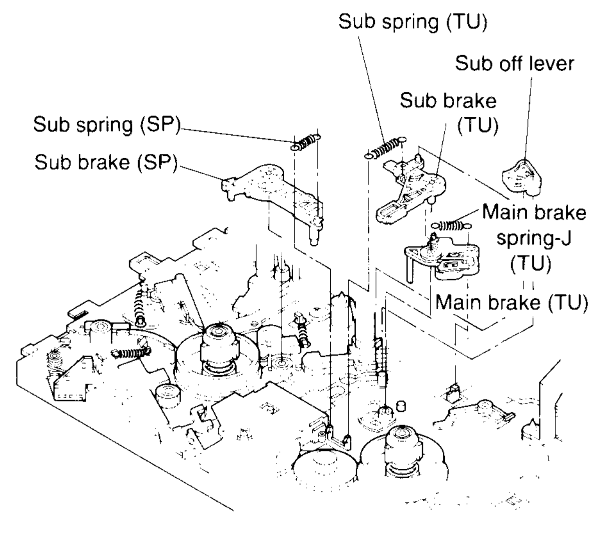

Sub spring (TU)
Sub off lever
Sub brake (TU)
Sub spring (SP)
Sub brake (SP)
Main brake spring-J (TU)
Main brake (TU)

Fig. 2-17-1

(Installation)

① Install the main brake(TU) on the main plate assembly so that the coupling portion with the main brake release lever is as shown in Fig. 2-17-2.

② Install the main brake spring J(TU).

③ Install the sub brake(TU), the sub off lever, and the sub spring(TU). (Refer to Para. 2-16 for the installation method.)

④ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)

⑤ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

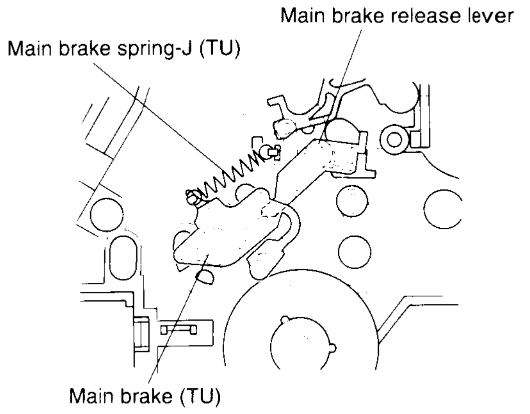

Main brake release lever
Main brake spring-J (TU)
Main brake (TU)

Fig.2-17-2

2-18 ID Swing Lever, Revolution Lever, and Revolution Spring

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Reverse the deck and remove the grip ring attached to the shaft G of the charge assembly.

③ Unfasten the two catches(A, B) to remove the charge assembly.

④ Remove the revolution spring with a tweezers.

⑤ Slide the revolution lever in the direction shown by the arrow and unfasten it from the catch C of the ID swing lever.(Refer to Fig. 2-18-1)

⑥ Detach the charge spring from the ID swing lever.

(Installation)

① Apply the grease(PG-641)[859D055030] to the areas shown in Fig. 2-18-2 of the new revolution lever and the ID swing lever.

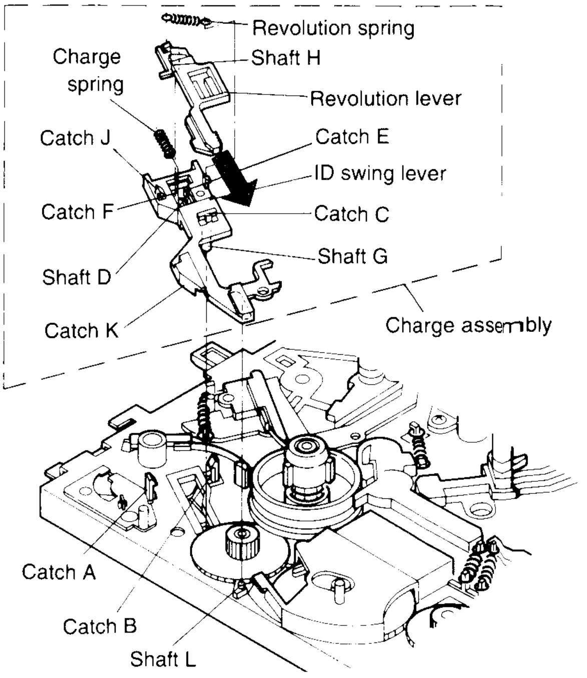

Revolution spring
Shaft H
Charge spring
Revolution lever
Catch J
Catch E
ID swing lever
Catch F
Catch C
Shaft G
Shaft D
Catch K
Charge assembly
Catch A
Catch B
Shaft L

Fig. 2-18-1

② Fix the charge spring to shaft D of the ID swing lever and compress it to hook its ends with the catches E and F.(Refer to Fig. 2-18-1)

Note: The charge spring should be installed in the directions shown below.

(Longitudinal Direction)

The bent tip is attached on the shaft D.

(Traverse Direction)

The wider semicircle is on the left as shown in Fig. 2-18-1.

③ Align the shaft H of the revolution lever with the position shown in Fig. 2-18-1. Insert catch C of the ID swing lever into the hole of the revolution lever, pushing the charge spring with a revolution lever in the direction shown by the arrow. At the same time, hook the ends of the revolution lever with the catches J and K.

④ Attach the revolution spring with a tweezers.

⑤ Install the charge assembly so that shaft G enters into the oval hole of the charge lever on the reverse side of the deck and the groove of the charge assembly fits the shaft as shown in Fig. 2-18-1. Secure the charge assembly with the catch A and B.

⑥ Reverse the deck and fix the new grip ring to the shaft G of the charge assembly.

⑦ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

2-19 Tension Arm, Tension Brake Belt, and Tension Spring

Note: During removal and installation, take care not to change the shape of the tension brake belt.

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for removal method.)

② Supply a voltage(approximately 5V DC plus voltage on the red wire) to the loading motor and slide the tape guide assembly completely to the loaded position,to set it to the loaded position.

③ Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

④ Unfasten the catch of the part A on the tension brake belt and raise the part A to unfasten the tension brake belt from the supply reel disk.(Refer to Fig. 2-19-1)

⑤ Remove the tension spring, unfasten the catch shown in Fig. 2-19-2, and raise the tension arm upward to remove it.

⑥ Reverse the tension arm, unfasten the catch with a tweezers as shown in Fig. 2-19-3 to remove the tension brake belt.

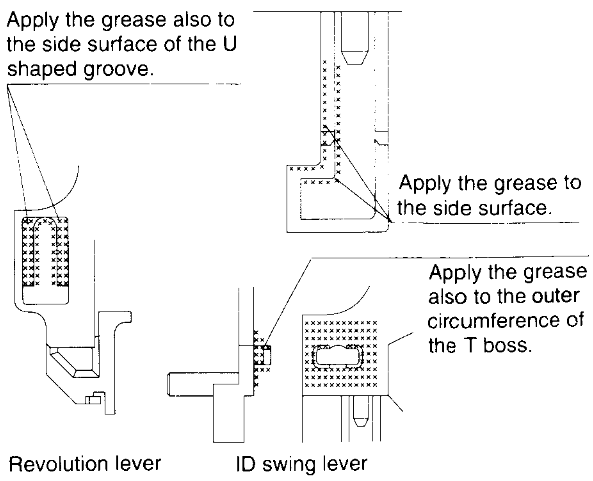

Apply the grease also to the side surface of the U shaped groove.
Apply the grease to the side surface.
Apply the grease also to the outer circumference of the T boss.
Revolution lever
ID swing lever

Fig. 2-18-2

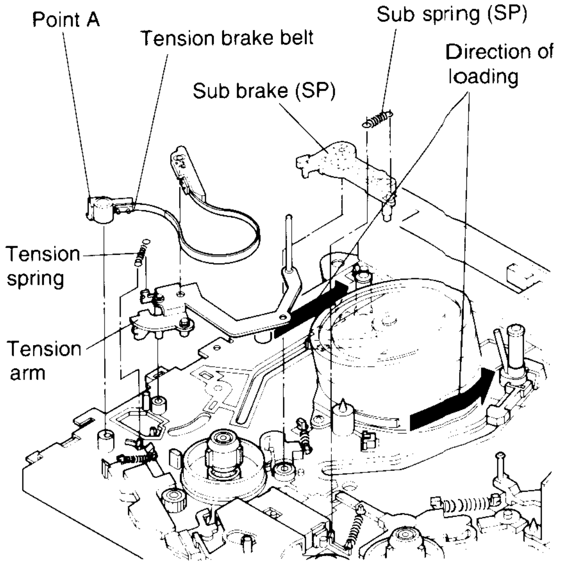

Point A
Tension brake belt
Sub spring (SP)
Direction of loading
Sub brake (SP)
Tension spring
Tension arm

Fig. 2-19-1

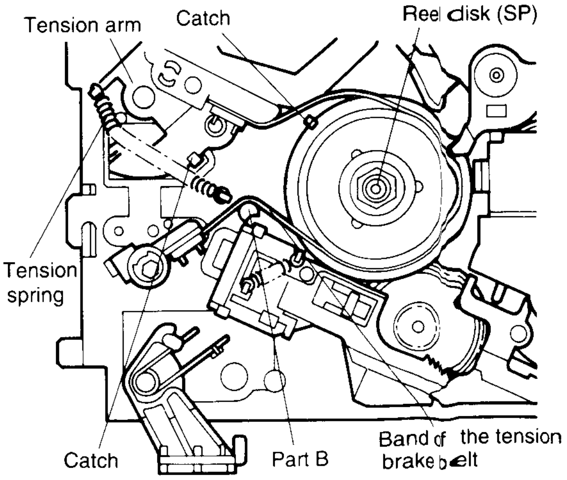

Tension arm
Catch
Reel disk (SP)
Tension spring
Catch
Part B
Band of the tension brake belt

Fig. 2-19-2

(Installation)

① Insert the catch in the position of the tension arm as shown in Fig. 2-19-3 to fasten the tension brake belt on the tension arm. (Take care not to let projection C, next to the catch of the tension brake belt touch the tension arm.)

② Install the tension arm, where the tension brake belt is fastened, on the main plate.

③ Fasten the tension brake belt around the supply reel disk. (The band of the tension brake belt must pass the outside of the catch shown in Fig. 2-19-2 and inside of the part B.)

④ Attach the tension spring.

⑤ Install the sub brake(SP) and sub spring(SP). (Refer to Para. 2-14 for the installation method.)

⑥ Supply voltage(approximately 5V), reversing the polarity used in ② of the Removal method, to set the motor to the unloaded position.

⑦ Make sure that the holes (matching mark M) on the body and cogwheel of the mode switch align with each other as shown in Fig. 2-19-4. At the same time confirm that the hole of the gear pinch aligns with the matching marks of the gear joint J and the ▽mark on the mode switch cogwheel,refer to Fig. 2-19-5. This indicates the J deck is in the EJECT mode.

⑧ If the deck is not completely set to the eject mode, turn part D of the pulley worm J by hand to set the eject mode.

Turn in the direction a ······ for loading
Turn in the direction b ······ for unloading
(Refer to Fig. 2-19-6)

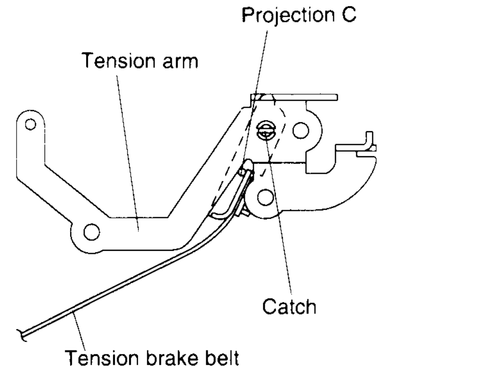

Projection C
Tension arm
Catch
Tension brake belt

Fig. 2-19-3

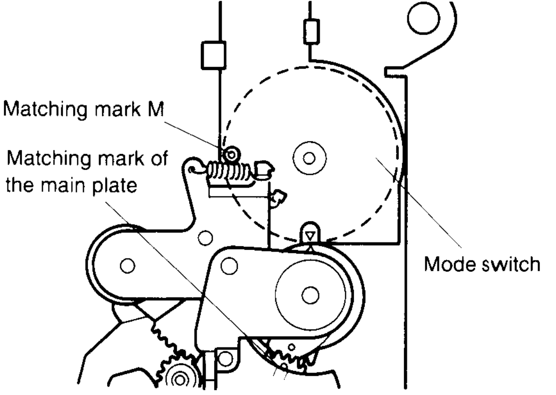

Matching mark M
Matching mark of the main plate
Mode switch

Fig. 2-19-4

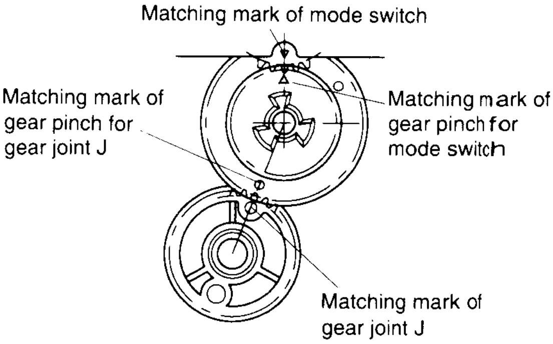

Matching mark of mode switch
Matching mark of gear pinch for gear joint J
Matching mark of gear pinch for mode switch
Matching mark of gear joint J

Fig. 2-19-5

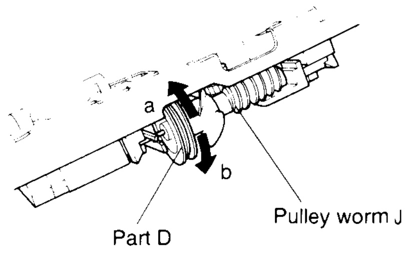

a
b
Part D
Pulley worm J

Fig. 2-19-6

2-20 Takeup Reel Disk and Gear R(takeup side)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)
② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)
③ Remove the sub off lever, the sub brake(TU), and the sub spring(TU). (Refer to Para. 2-16 for the removal method.)
④ Unfasten the catch shown in Fig. 2-20-1 and raise the takeup reel disk upward to remove it from the shaft.
⑤ Raise the gear R(takeup side) upward to remove it from the shaft. (Refer to Fig. 2-20-2.)

(Installation)

① Install the gear R(takeup side) on the shaft. (Refer to Fig. 2-20-2.)
② Install the takeup reel disk on the shaft.(Refer to Fig. 2-20-2)
③ Install the height adjusting jig [master plane](used for F deck: Part No.859C342020) in the specified position. (Insert the jig into hole A, shown in Fig. 2-20-3, so that the jig sets on part B and the end of part C. Take care that the jig does not touch the supply and takeup reel disks.)
④ Place the height adjusting jig [square](used for E deck: Part No.859C341070) on the jig installed in Item ③ as shown in Fig. 2-20-4. Make sure that the height is correct (between A and B).
⑤ Adjust the height of the supply reel disk by varying the number of the washers (Part No.552C017020) under the disk.
A) If it is high, remove washer(s).
B) If it is low, add washer(s).
⑥ Install the sub brake(TU), the sub off lever, and the sub spring(TU). (Refer to Para. 2-16 for the installation method.)
⑦ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)
⑧ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

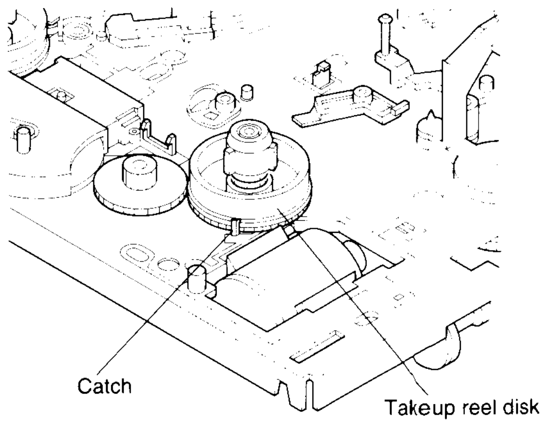

Catch
Takeup reel disk

Fig. 2-20-1

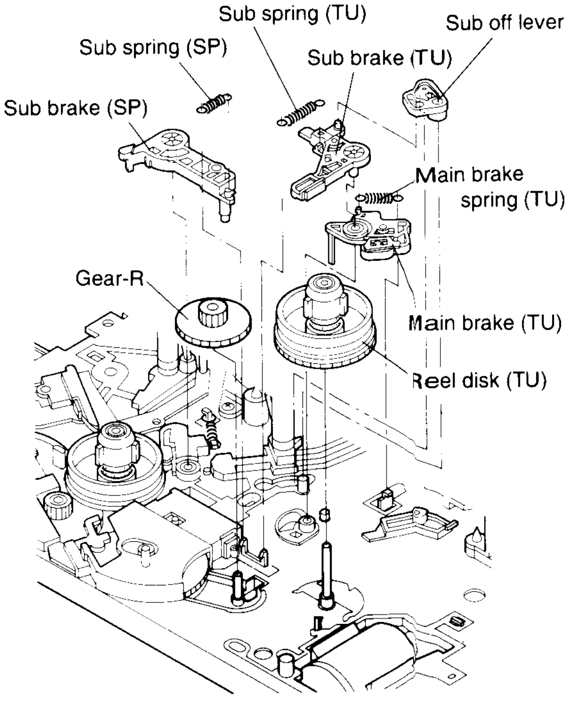

Sub spring (TU)
Sub off lever
Sub spring (SP)
Sub brake (TU)
Sub brake (SP)
Main brake spring (TU)
Gear-R
Main brake (TU)
Reel disk (TU)

Fig. 2-20-2

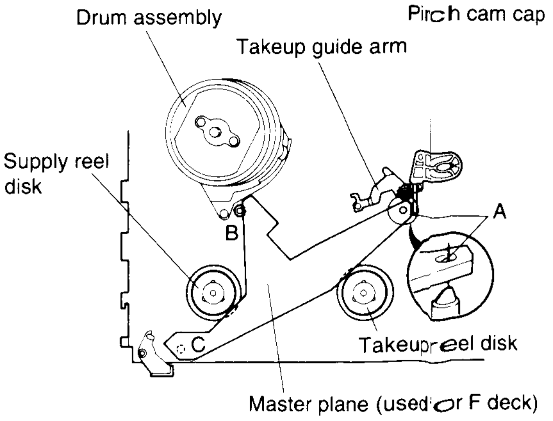

Drum assembly
Pinch cam cap
Takeup guide arm
Supply reel disk
A
B
C
Takeup reel disk
Master plane (used for F deck)

Fig. 2-20-3

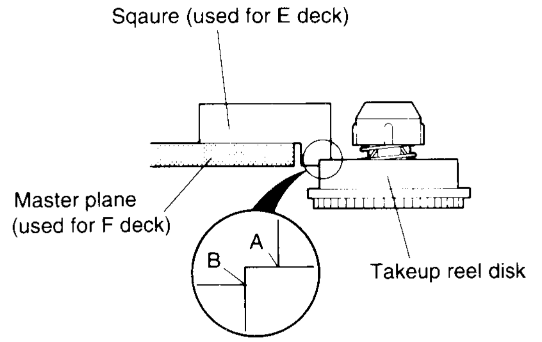

Sqaure (used for E deck)
Master plane
(used for F deck)
A
B
Takeup reel disk

Fig. 2-20-4

2-21 Supply Reel Disk

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.

③ Raise the part B of the tension brake belt upward to unfasten the belt from the supply reel disk as shown in Fig. 2-21-2. (Refer to Para. 2-19 for the removal method.)

④ Unfasten the catch shown in Fig. 2-21-1 and raise the supply reel disk upward to remove it from the shaft.

(Installation)

① Install the supply reel disk on the shaft.

② Install the height adjusting jig [master plane](used for F deck: Part No.859C342020) in the specified position. (Insert the jig into the hole A shown in Fig. 2-20-3 so that the jig sets on part B and the end of part C. Take care that the jig does not touch the supply and takeup reel disks.)

③ Place the height adjusting jig [square](used for E deck: Part No.859C341070) on the jig, previously installed placed in Item ④, as shown in Fig. 2-21-3. Make sure that the height is correct (between A and B).

④ Adjust the height of the supply reel disk by varying the number of the washers(Part No.552C017O20) under the disk.

A) If it is high, remove washer(s).

B) If it is low, add washer(s).

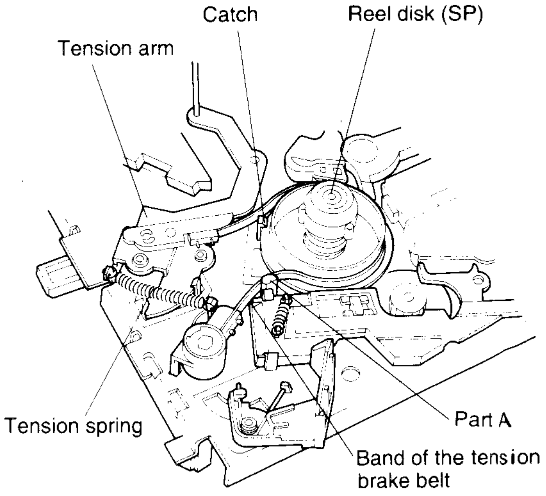

Catch
Reel disk (SP)
Tension arm
Tension spring
Part A
Band of the tension brake belt

Fig. 2-21-1

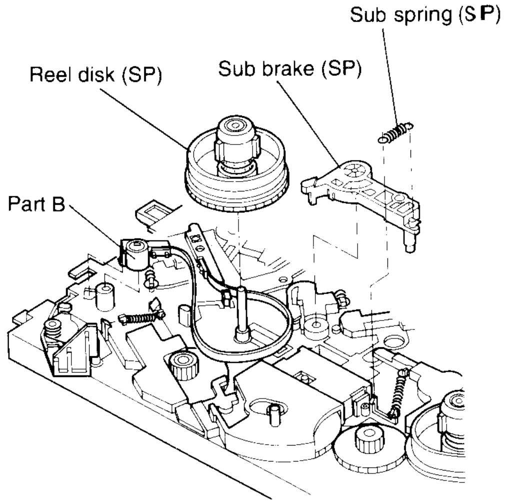

Sub spring (SP)
Reel disk (SP)
Sub brake (SP)
Part B

Fig. 2-21-2

⑤ Fasten the tension brake belt round on the supply reel disk, taking care not to score the belt and route part B of the tension brake belt as shown in Fig. 2-21-2. (Refer to Para. 2-19 for the installation method.) (The band of the tension brake belt must pass outside of the catch shown in Fig. 2-21-1 and inside of the part A.)
⑥ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)
⑦ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

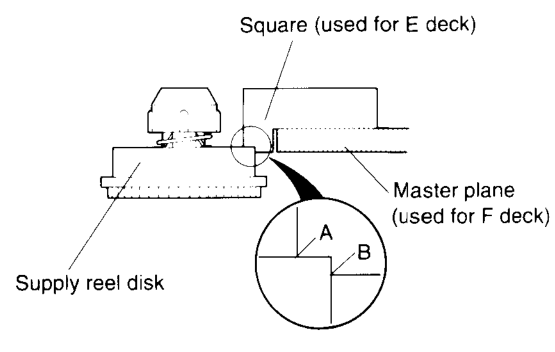

Square (used for E deck)
Master plane
(used for F deck)
A
B
Supply reel disk

Fig. 2-21-3

2-22 Gear R(supply side) (Refer to Fig. 2-22-1.)

(Removal)
① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)
② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)
③ Unfasten the tension brake belt from the supply reel disk and remove the supply reel disk. (Refer to Para. 2-21 for the removal method.)
④ Remove the charge assembly. (Refer to item ② of Removal in Para. 2-18 for the removal method.)
⑤ Raise the gear R(SP) upward to remove it from the shaft.

(Installation)
① Install the gear R(SP) on the shaft.
② Install the supply reel disk. (Refer to Para. 2-21 for the installation method.)
③ Install sub brake(SP) and sub spring(SP). (Refer to Para. 2-14 for the installation method.)
④ Install the charge assembly. (Refer to Item ⑤ of Para. 2-18 for the installation method.)
⑤ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

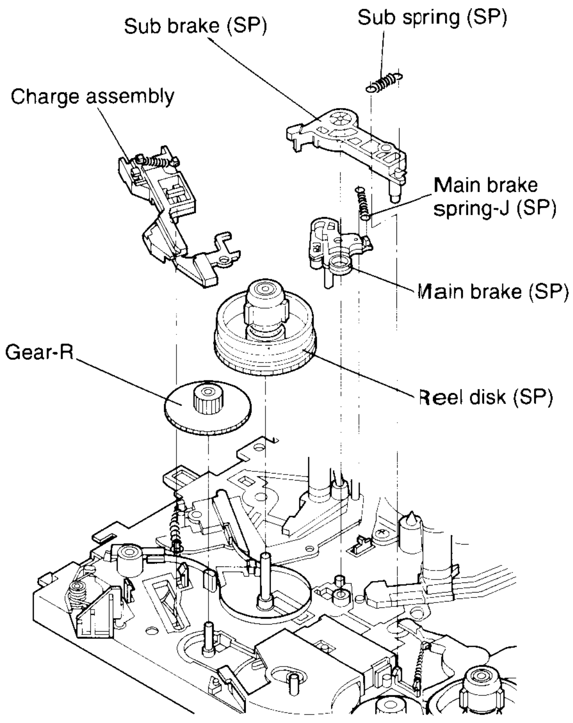

Sub brake (SP)
Sub spring (SP)
Charge assembly
Main brake
spring-J (SP)
Main brake (SP)
Gear-R
Reel disk (SP)

Fig. 2-22-1

2-23 Main Brake Release Lever (Refer to Fig. 2-23-1.)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)
② Remove the sub brake(SP), and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)
③ Remove the sub off lever, the sub brake(TU), and the sub spring(SP). (Refer to Para. 2-16 for the removal method.)
④ Remove the main brake(TU) and the main brake spring J(TU). (Refer to Para. 2-17 for the removal method.)
⑤ Shift catch A of the main brake release lever, and push catch B at the same time, in the direction shown by each arrow. Unfasten catch B from the main plate to remove the main brake release lever. (Refer to Fig. 2-23-2).

(Installation)

① Install the main brake release lever so that the shaft enters the inside groove shown in Fig. 2-23-3 of the main gear J.
② Install the main brake(TU) and the main brake spring J(TU). (Refer to Para. 2-17 for the installation method.)
③ Install the sub brake(TU), the sub off lever, and the sub spring(TU). (Refer to Para. 2-16 for the installation method.)
④ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)
⑤ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

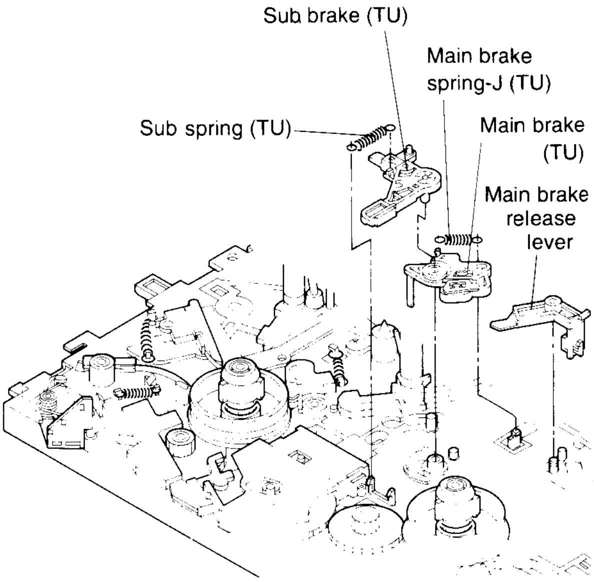


Fig. 2-23-1

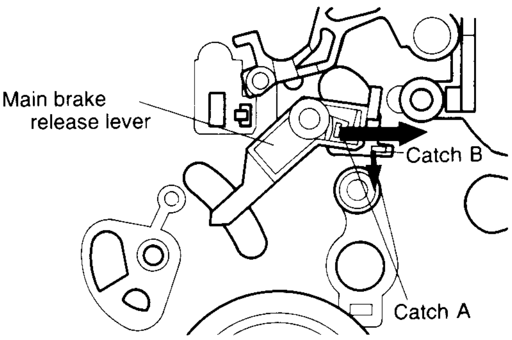


Fig. 2-23-2

Insert the boss of the main brake release lever into the position shown in the figure below of the main gear J.

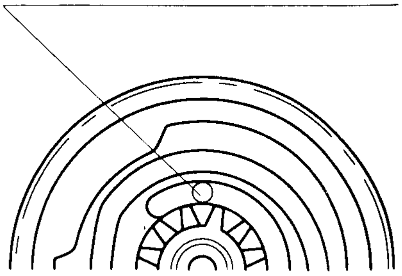


Fig. 2-23-3

2-24 Pinch Cam Cap, Pinch Roller Arm Assembly, Pinch Cam, Takeup Guide Gear, Gear Pinch, Takeup Guide Arm, and Takeup Guide Spring

(Removal)

① Unfasten the catch shown in Fig. 2-24-1 and raise the pinch cam cap upward to remove it.
② Raise the pinch roller arm assembly upward to remove it.
③ Raise the pinch cam and the takeup guide gear upward to remove them from the shaft.
④ Unfasten the two catches holding the mode switch and remove the gear pinch from the shaft, lift the mode switch only high enough to remove the gear pinch. (Take care not to break the pins of the mode switch.)
⑤ Remove the nut at the top of the takeup guide arm with a (5.5mm) box screw driver.
⑥ Raise the takeup guide arm upward to remove it.
⑦ Remove the takeup guide spring.

(Installation)

① Hook one end of the takeup guide spring with the takeup guide arm, fix the takeup guide spring to the shaft.
② Apply grease (PG-641) [859D055030] around the top of the new takeup guide arm (the surface which touches with the nut). Fix the takeup guide arm to the shaft, and secure it with the nut. (Set the takeup guide arm to the height shown in Fig. 2-24-2 temporarily.)
③ Lift the mode switch, only high enough to install the gear pinch and place the gear pinch under the mode switch. Fix the mode switch to the shaft so that the matching marks of the gear pinch align with those of the gear joint J and the mode switch as shown in Fig. 2-24-3.
④ Install the takeup guide gear so that the first cog of the takeup guide arm aligns with the matching mark on the takeup guide gear as shown in Fig. 2-24-4.
⑤ Apply grease (G) [859D055050] to the area shown in Fig. 2-24-5 of the new pinch cam.
⑥ Turn the takeup guide arm clockwise while inserting the pinch cam into the gear pinch. Install the pinch cam so that it aligns with the triple catch. (Excessive rotation of the takeup guide arm will keep it from returning, since the takeup guide gear is caught on the pinch roller cam.)
⑦ Apply the grease (PG-641) [859D055030] to the new pinch cam cap on the area shown in Fig. 2-24-7.
⑧ Install the pinch roller arm assembly and the pinch cam cap.

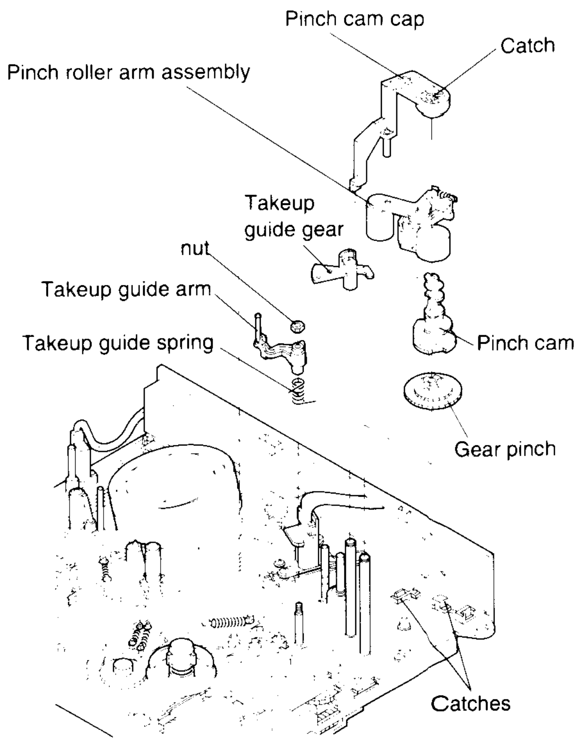

Pinch cam cap
Catch
Pinch roller arm assembly
Takeup guide gear
nut
Takeup guide arm
Takeup guide spring
Pinch cam
Gear pinch
Catches

Fig. 2-24-1

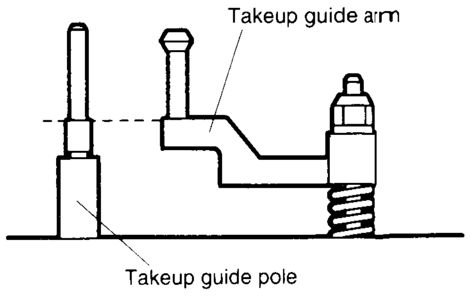

Takeup guide arm
Takeup guide pole

Fig. 2-24-2

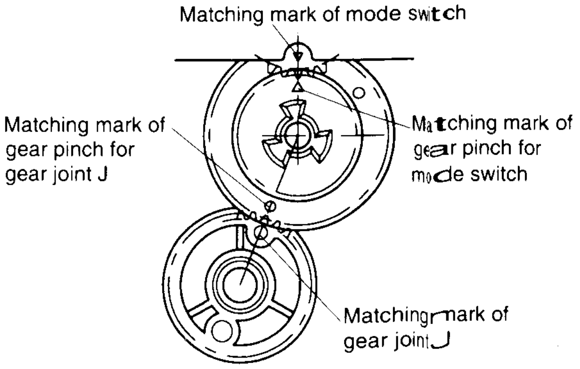

Matching mark of mode switch
Matching mark of gear pinch for gear joint J
Matching mark of gear pinch for mode switch
Matching mark of gear joint J

Fig. 2-24-3

[Adjustment of Takeup Guide Arm Height]

Adjust the height of the takeup guide arm according to the following procedure.

① Place the height adjusting jig (for the F deck) in the reference position on the main plate (Refer to Fig. 2-20-3). Tighten the takeup guide arm fastening nut so that the lower flange of the takeup guide arm is level with point B of the height adjusting jig (for the E deck). (Refer to Fig. 2-24-6).

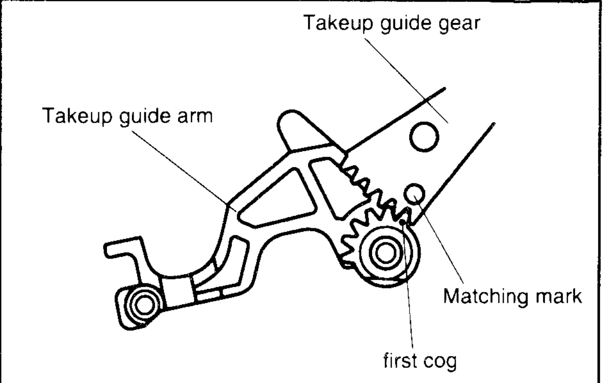

Takeup guide gear
Takeup guide arm
Matching mark
first cog

Fig. 2-24-4

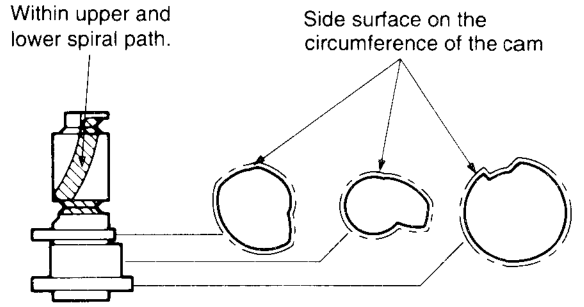

Within upper and lower spiral path.
Side surface on the circumference of the cam

Fig. 2-24-5

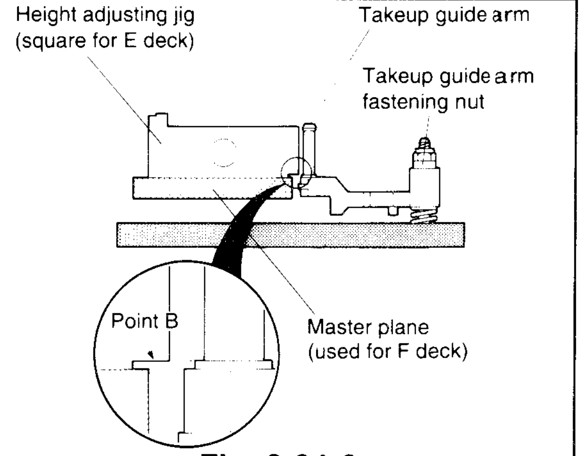

Height adjusting jig (square for E deck)
Takeup guide arm
Takeup guide arm fastening nut
Point B
Master plane (used for F deck)

Fig. 2-24-6

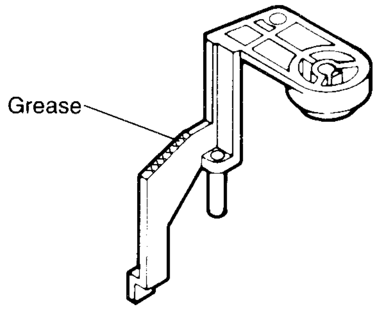


Fig. 2-24-7

2-25 Pinch Roller, Roller Cap, Pinch Spring, and Pinch Cam Spring

Note: During removal and installation, do not expand the pinch spring more than 18mm and the pinch cam spring more than 27mm.

(Removal)

① Pry the pinch roller and the roller cap to remove them as shown in Fig. 2-25-1.

② Remove the pinch spring and the pinch cam spring.

(Installation)

① Install the pinch cam spring and the pinch spring making sure that the pinch arm, the pinch slider, and the pinch lever are composed as shown in Fig. 2-25-2.

② Install the pinch roller so that the side, with the widest aluminium bushing, is on the roller cap side. Push the roller cap inside to secure the pinch roller.(Refer to Fig. 2-25-3)

Note: There are two types of pinch rollers as shown in Fig. 2-25-3. Each should be installed in the direction shown below.

(Type A)

The side on which aluminum is wider is attached the roller cap.

(Type B)

The convex portion is attached on the roller cap.

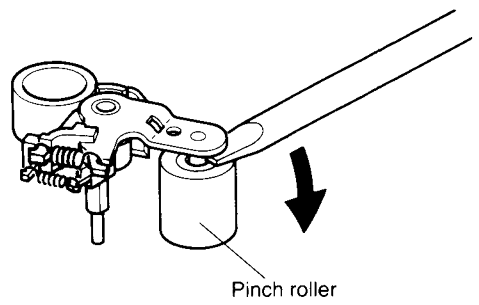

Pinch roller

Fig. 2-25-1

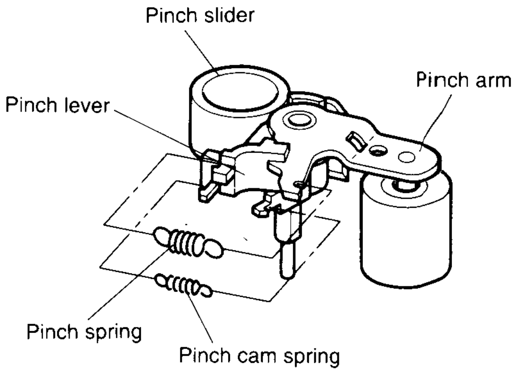

Pinch slider
Pinch arm
Pinch lever
Pinch spring
Pinch cam spring

Fig. 2-25-2

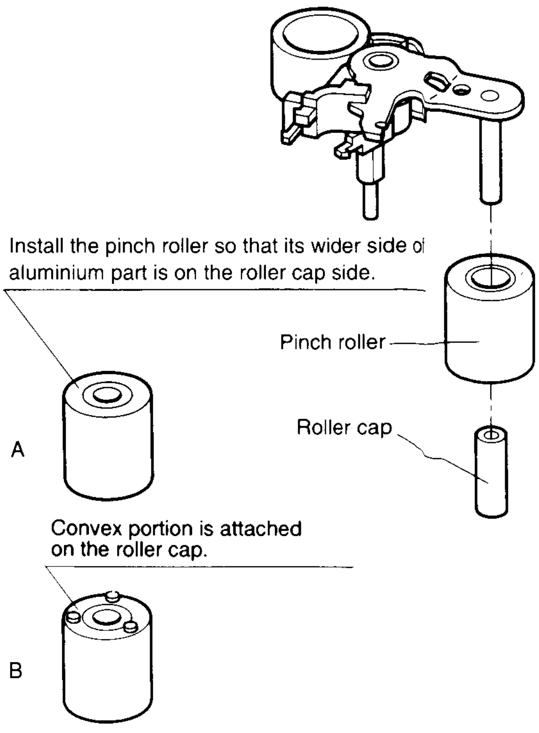

Install the pinch roller so that its wider side of aluminium part is on the roller cap side.
Pinch roller
Roller cap
A
Convex portion is attached on the roller cap.
B

Fig. 2-25-3

2-26 Mode Switch

(Removal)

① Remove the pinch cam cap, the pinch roller arm assembly, the pinch cam, and the takeup guide gear.
(Refer to Para. 2-24 for the removal method.)

② Unsolder the five soldered terminals connecting the PCB-HA/AUDIO to the mode switch.
(Refer to Fig. 2-26-1).

③ Unfasten two catches holding the mode switch.
(Refer to Fig. 2-26-2.)

④ Slowly remove the mode switch, making sure that it is completely unsoldered.

(Installation)

① Insert the five pins and the boss of the mode switch shown in Fig. 2-26-1 into the matching holes of the PCB-HA/AUDIO. Place the mode switch on the main plate so that the matching mark of the gear pinch aligns with that of the mode switch and fasten it with the catches as shown in Fig. 2-26-3. (Also make sure that the matching mark of the gear joint aligns with that of the gear pinch.)

② Install the takeup guide gear, the pinch cam, the pinch roller arm assembly, and the pinch cam cap.
(Refer to Para. 2-24 for the installation method.)

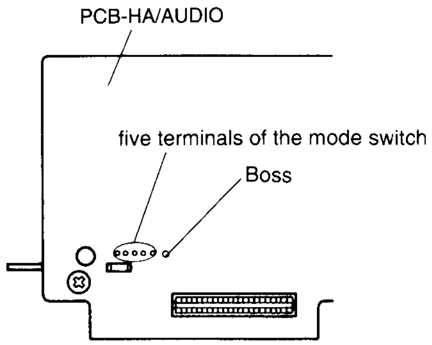

PCB-HA/AUDIO
five terminals of the mode switch
Boss

Fig. 2-26-1

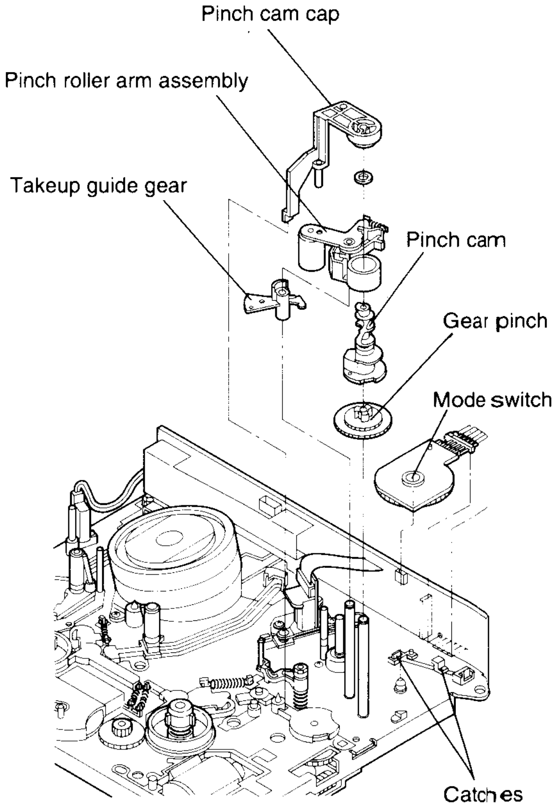

Pinch cam cap
Pinch roller arm assembly
Takeup guide gear
Pinch cam
Gear pinch
Mode switch
Catches

Fig. 2-26-2

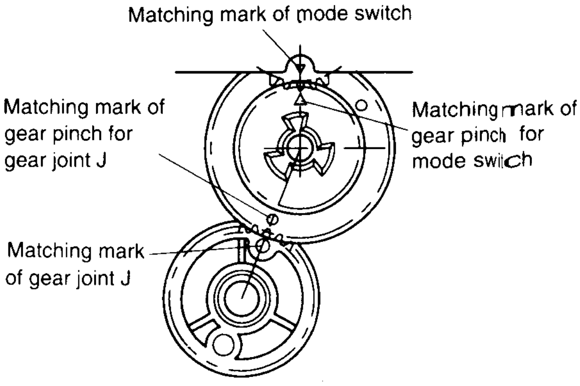

Matching mark of mode switch
Matching mark of gear pinch for gear joint J
Matching mark of gear pinch for mode switch
Matching mark of gear joint J

Fig. 2-26-3

2-27 FE Head (Refer to Fig. 2-27-1.)

(Removal)

① Disconnect the lead connector, connected to the FE head.

② Remove the screw(ⓐ) to remove the FE head.

(Installation)

① Secure the FE head with the screw(ⓐ) and connect the lead connector to the FE head. (Route the lead connector, which is fastened with the catch as shown in Fig. 2-27-1, through the hook of the main plate.)

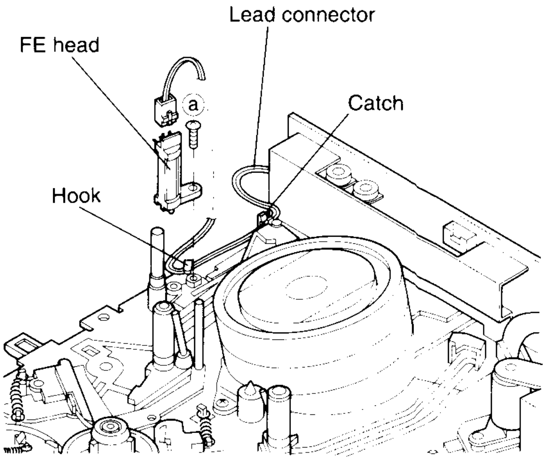


Fig. 2-27-1

2-28 Reel Belt and Belt Pulley

(Removal)

① Unfasten the reel belt from the capstan motor and the belt pulley.

② Release the belt pulley as shown in Fig. 2-28-1 and raise the belt pulley upward to remove it.

(Installation)

Note: When installing the reel belt, make sure it is clean and free of grease.(Clean with dry gauze only)

① Fasten the belt pulley to the shaft.(When fixing the belt pulley to the shaft of the idler assembly, make sure that the three convex parts of the washer fixed to the shaft enter the matching dents.

② Secure the belt pulley with the new cut washer.

③ Install the reel belt on the capstan motor and the belt pulley, taking care that the belt is not twisted.

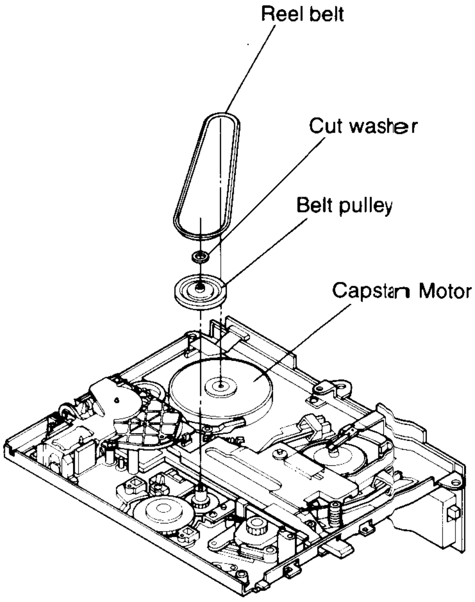


Fig. 2-28-1

2-29 Loading Motor Assembly, Pulley Worm J, Loading Motor Belt, and Gear A

(Removal)

① Unfasten the reel belt. (Refer to Para. 2-28 for the removal method.)

② Remove the three screws(ⓐ,ⓑ and ⓒ) as shown in Fig. 2-29-2 and unfasten the three catches to remove the loading motor assembly (which holds the motor holder). (Refer to Fig. 2-29-1)

③ Remove the loading motor belt from the motor pulley. (Refer to Fig. 2-29-3.)

④ Unfasten the catches holding the motor holder to remove the loading motor assembly.
(Refer to Fig. 2-29-3.)

⑤ Remove the pulley worm J, first the end attached to the part A shown in Fig. 2-29-3 and then the other end.

⑥ Remove the cut washer and unfasten the catch holding Gear A. Remove Gear A.

⑦ Pull the motor pulley to remove it from the loading motor.

⑧ Disconnect the wires from the loading motor.

(Installation)

① Solder the leads to the loading motor.(Red lead wire to the positive terminal and white lead wire to the negative terminal.)

② Install the motor pulley on the loading motor so that the space between the loading motor and the outer edge of the motor pulley is 8.5±0.1mm. (Refer to Fig. 2-29-4)

③ Install the loading motor assembly so that the label on it faces part B, shown in Fig. 2-29-3.

④ Apply grease (G)[859D055050] to the areas shown in Fig. 2-29-4 of the new pulley worm J. Install the pulley worm J, first the end attached to the part C shown in Fig.2-29-3 and then the other end.

⑤ Fix the gear A to the shaft of the motor holder J and secure it with new cut washers.

⑥ Lift the end attached to the part A shown in Fig. 2-29-3 of the pulley worm J. Fasten the loading motor belt on the pulley worm J and the motor pulley, taking care not to twist the belt.

⑦ Install the loading motor assembly(which holds the motor holder) in the position shown in Fig. 2-29-2 and secure it with the three screws(ⓐ,ⓑ and ⓒ).

⑧ Install the loading motor belt. (Refer to Para. 2-28 for the installation method.)

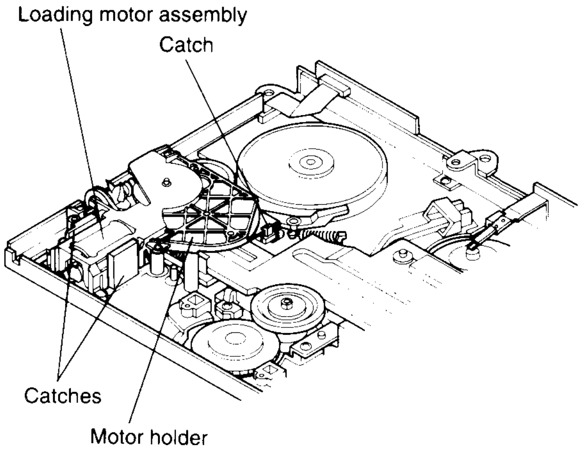

Loading motor assembly
Catch
Catches
Motor holder

Fig. 2-29-1

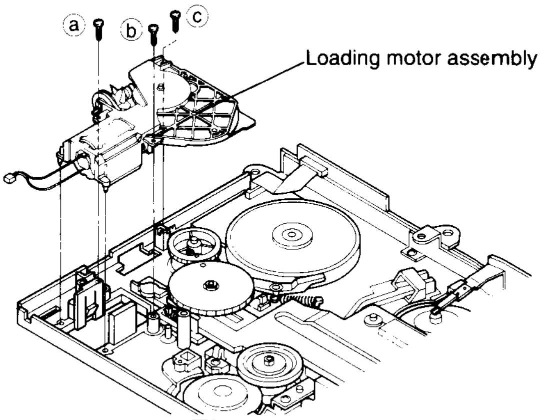

ⓐ
ⓑ
ⓒ
Loading motor assembly

Fig. 2-29-2

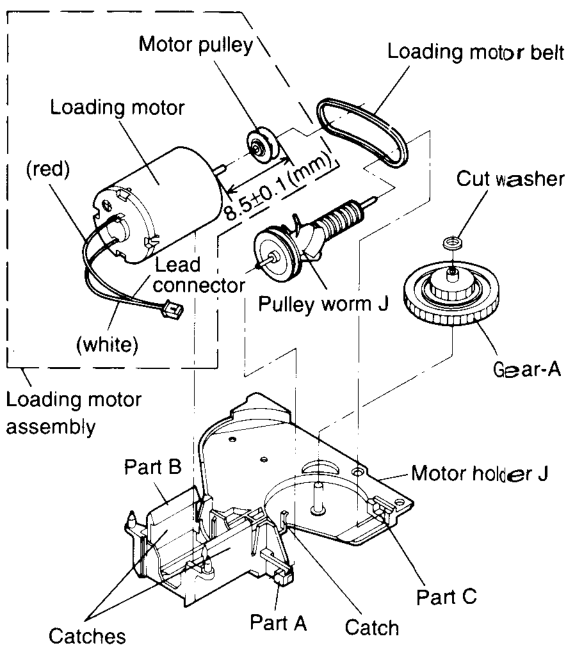

Motor pulley
Loading motor belt
Loading motor
(red)
8.5±0.1(mm)
Cut washer
Lead connector
Pulley worm J
(white)
Gear-A
Loading motor assembly
Part B
Motor holder J
Part C
Catches
Part A
Catch

Fig. 2-29-3

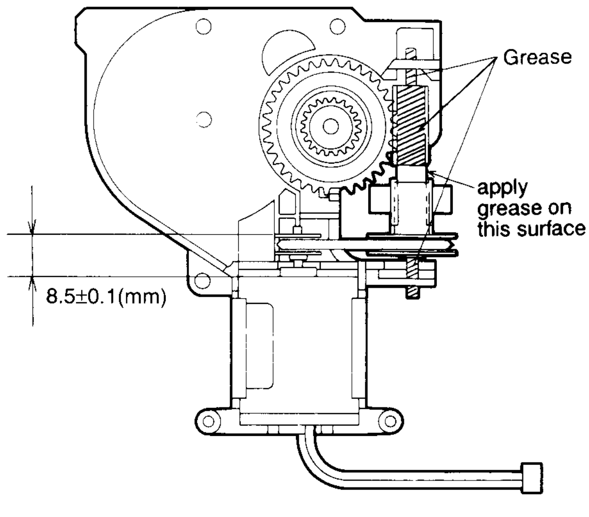


Fig. 2-29-4

2-30 Main Gear J

(Removal)

① Remove the reel belt.
(Refer to Para. 2-28 for the removal method.)
② Remove the loading motor assembly (which holds the motor holder).
(Refer to Para. 2-29 for the removal method.)
③ Remove the cut washer mounted on the main gear J.
④ Raise the main gear J upward to remove it.

(Installation)

① Apply grease (G) [859D055050] to the outside cogs, the groove of the cam and to the inside small cogs of the new main gear J. (Refer to Fig. 2-30-2.)
② Make sure that the cam plate B is set to the right side, viewed from the bottom side of the deck. (Eject mode)
③ Push the axis of the main brake (TU) in the direction shown by the arrow until the main brake release lever moves freely. Turn the deck the right side up and shift the axis of the main brake release lever in the direction shown by the arrow. Then fix the main gear J to the shaft, with the axis of the main brake release lever held in place. Secure the main plate J with the cut washer. (Refer to Fig. 2-30-3) (Insert the pin of the capstan brake in the outside groove of the main gear J and align the matching marks of gear joint J and the main gear J.) (Refer to Fig. 2-30-4)
④ Install the loading motor assembly (which holds the motor holder) and the reel belt.
(Refer to Para. 2-28 for the installation method.)

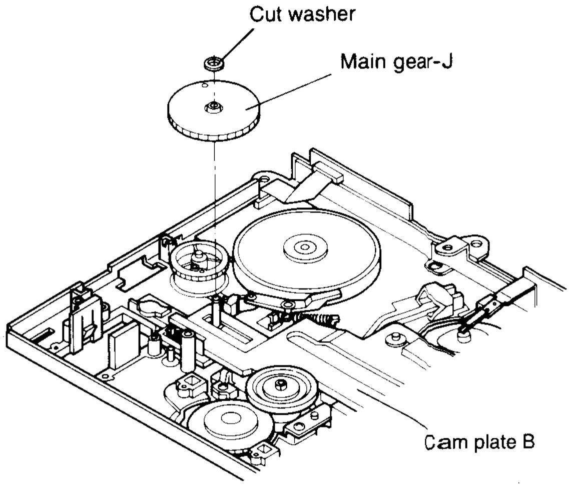


Fig. 2-30-1

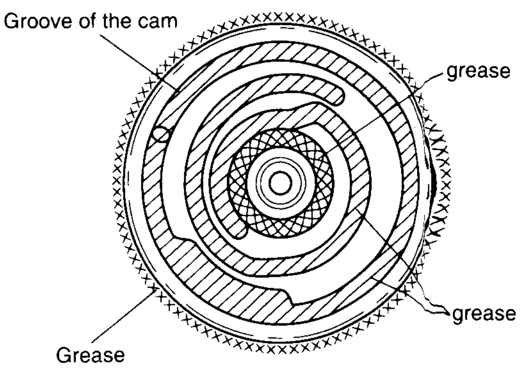


Fig. 2-30-2

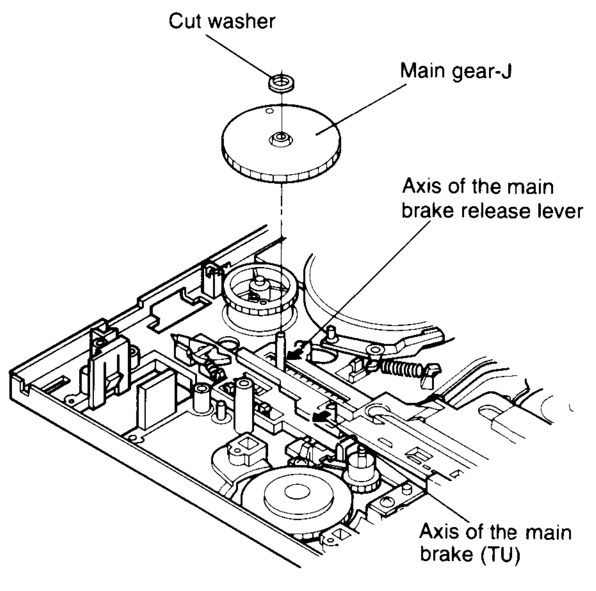

Cut washer
Main gear-J
Axis of the main brake release lever
Axis of the main brake (TU)

Fig. 2-30-3

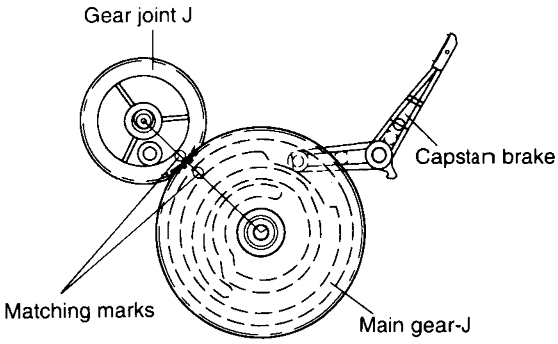

Gear joint J
Capstan brake
Matching marks
Main gear-J

Fig. 2-30-4

2-31 Gear Joint J

(Removal)

① Remove the reel belt. (Refer to Para. 2-28 for the removal method.)

② Remove the loading motor assembly (which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

③ Raise the gear joint J upward to remove it. (Refer to Fig. 2-31-1)

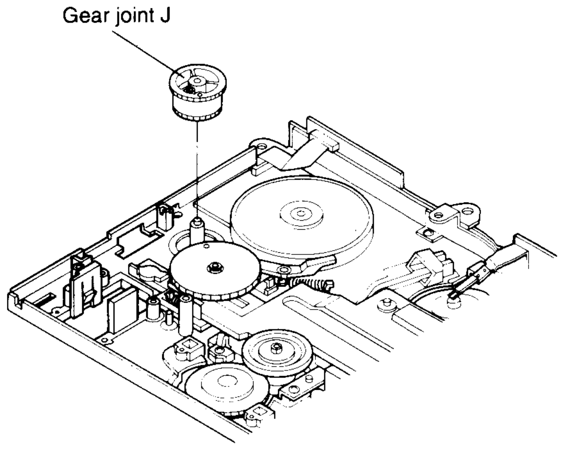

Gear joint J

Fig. 2-31-1

(Installation)

① Apply grease (PG-641)[859D055O30] to the new gear joint J on the whole circumference of the small cogwheel as shown in Fig. 2-31-2.

② Fix the gear joint J to the shaft so that the matching mark of the gear joint J aligns with that of the main gear as shown in Fig. 2-30-4.

③ Turn the deck the right side up, make sure that the matching mark of the gear pinch aligns with that of the gear joint J. (When turning the deck, hold the gear joint J, in place.)(Refer to Fig. 2-31-3)

④ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the installation method.)

⑤ Install the reel belt. (Refer to Para. 2-28 for the installation method.)

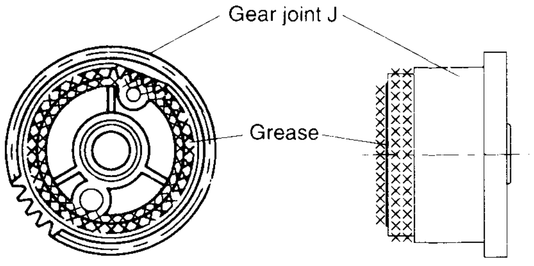

Gear joint J
Grease

Fig. 2-31-2

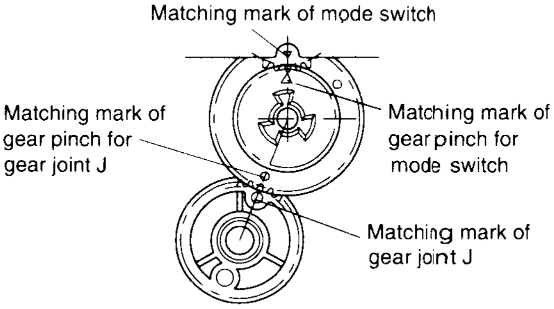

Matching mark of mode switch
Matching mark of gear pinch for gear joint J
Matching mark of gear pinch for mode switch
Matching mark of gear joint J

Fig. 2-31-3

2-32 Capstan Brake and Capstan Brake Spring

(Removal)

① Remove the reel belt. (Refer to Para. 2-28 for the removal method.)

② Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

③ Remove the main gear J. (Refer to Para. 2-30 for the removal method.)

④ Raise the capstan brake upward to remove it along with the capstan brake spring. (Refer to Fig. 2-32-1.)

(Installation)

① Install the capstan brake and the capstan brake spring.

② Install the main gear J. (Refer to Para. 2-30 for the installation method.)

③ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the installation method.)

④ Fasten the reel belt. (Refer to Para. 2-28 for the installation method.)

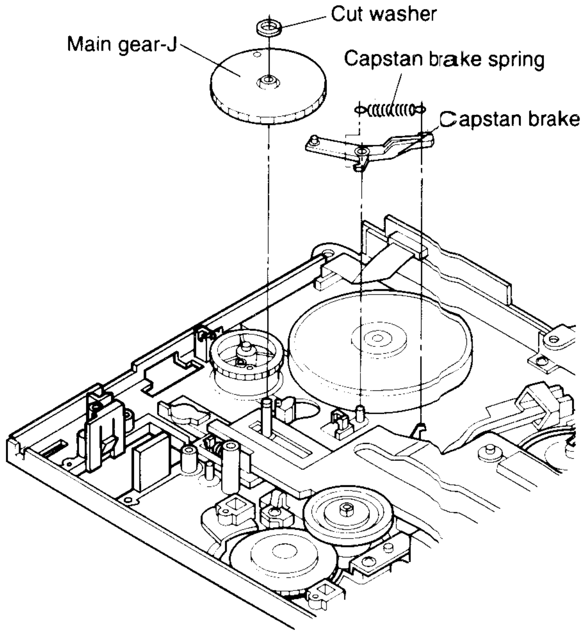

Cut washer
Main gear-J
Capstan brake spring
Capstan brake

Fig. 2-32-1

2-33 Plate J, Roller B, and Cam Plate B

(Removal)

① Remove the two screws (ⓐ and ⓑ) to remove the plate J. (Fig. 2-33-1)

② Take off the cut washer fixed to the shaft of the loading arm (TU) to remove the roller B.

③ Remove the reel belt.
(Refer to Para. 2-28 for the removal method.)

④ Remove the belt pulley.
(Refer to Para. 2-28 for the removal method.)

⑤ Remove the loading motor assembly (which holds the motor holder).
(Refer to Para. 2-29 for the removal method.)

⑥ Remove the main gear J.
(Refer to Para. 2-30 for the removal method.)

⑦ Slide the cam plate B to the left (the direction shown by the arrow) to remove it.

(Installation)

① Apply grease (G) [859D055O50] to the area shown in Fig. 2-33-2 of the new cam plate B.

② Align the loading arms TU and SP so that the matching marks of the cogs align. (Refer to Fig. 2-37-3)

③ Passing part A of the cam plate B under cam spring B insert it into the hole on the side of the main plate, as shown by the continuous line. (Refer to Fig. 2-33-1)

④ While keeping the rear section of cam plate B raised, align the cam plate B and the cam gear R so that the ○ mark on the cam plate B aligns with the part A on the cam gear R as shown in Fig.2-33-3 (Fig. A). Still keeping the rear of cam plate B raised, slide it to the right until the △ mark on cam plate B and aligns with the part B on the cam gear R, refer Fig. 2-33-3 (Fig. B). From this position lower the rear of the cam plate B unto the already aligned loading gears TU and SP, refer 2 above. Shift the sub off lever and the main brake TU in the directions shown by the arrows to install them. (Refer to Fig. 2-33-1)

⑤ Fix the roller B to the shaft of the loading arm (TU) and secure it with the new cut washer.

⑥ Install the plate J and secure it with the two screws (ⓐ and ⓑ).

⑦ Install the main gear J.
(Refer to Para. 2-30 for the installation method.)

⑧ Install the loading motor assembly (which holds the motor holder).
(Refer to Para. 2-29 for the installation method.)

⑨ Install the belt pulley.
(Refer to Para. 2-28 for the installation method.)

⑩ Fasten the reel belt.
(Refer to Para. 2-28 for the installation method.)

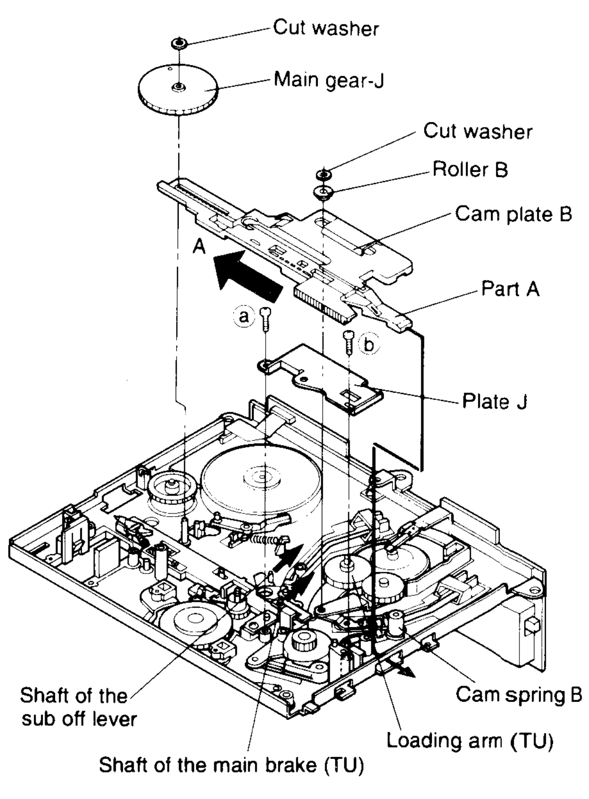

Cut washer
Main gear-J
Cut washer
Roller B
Cam plate B
A
Part A
a
b
Plate J
Shaft of the sub off lever
Cam spring B
Loading arm (TU)
Shaft of the main brake (TU)

Fig. 2-33-1

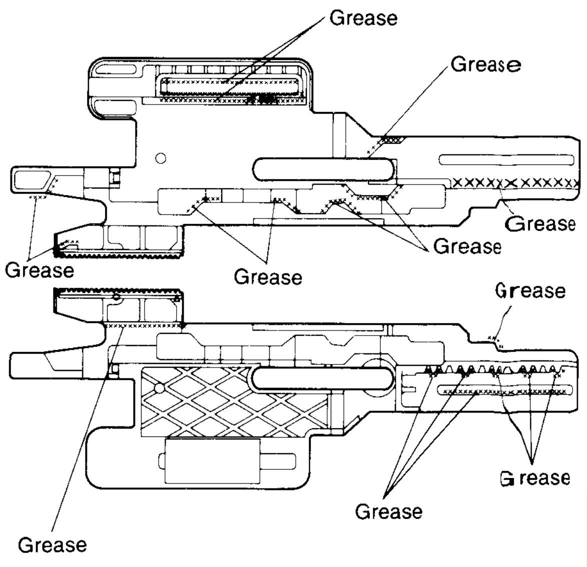

Grease
Grease
Grease
Grease
Grease
Grease
Grease
Grease
Grease
Grease

Fig. 2-33-2

2-34 Cam Gear R, Charge Lever, and Tension Off Lever

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the installation method.)
② Turn the deck the right side up and detach the tension spring. (Refer to Fig. 2-34-4.)
③ Remove the charge assembly.
(Refer to item ② of Para. 2-18 for the removal method.)
④ Remove the reel belt and the pulley belt.
(Refer to Para. 2-28 for the removal method.)
⑤ Remove the loading motor assembly (which holds the motor holder).
(Refer to Para. 2-29 for the removal method.)
⑥ Remove the main gear J.
(Refer to Para. 2-30 for the removal method.)
⑦ Remove the plate J, the roller B, and the cam plate B.
(Refer to Para. 2-33 for the removal method.)
⑧ Raise the cam gear R upward to remove it.
(Refer to Fig. 2-34-1.)
⑨ Remove the charge lever. (Refer to Fig. 2-34-1.)
⑩ Remove the tension off lever. (Refer to Fig. 2-34-1.)

(Installation)

① Let part A pass through part B shown in Fig. 2-34-1 to install the tension off lever.
② Fix the charge lever to the shaft.
③ Apply grease (PG-641) [859D055030] to the area shown in Fig. 2-34-2 of the new cam gear R.
(The groove and the flank of the outside circumference.)
④ Insert the cam gear R so that part A is on the upside, with the charge lever set fully to the right end. Slowly turn the charge lever in the direction shown by the arrow until it enters the groove in the cam gear R.
(Refer to Fig. 2-34-3)
⑤ Install the cam plate B, the roller B, and the plate J.
(Refer to Para. 2-33 for the installation method.)
⑥ Install the main gear J.
(Refer to Para. 2-30 for the installation method.)
⑦ Install the loading motor assembly (which holds the motor holder).
(Refer to Para. 2-29 for the installation method.)
⑧ Install the belt pulley and the reel belt.
(Refer to Para. 2-28 for the installation method.)
⑨ Hook the tension spring in the position shown in Fig. 2-34-4.
⑩ Install the charge assembly.
(Refer to Item ⑤ of Para. 2-18 for the installation method.)
⑪ Install the cassette housing.
(Refer to Para. 2-1 about the installation method.)

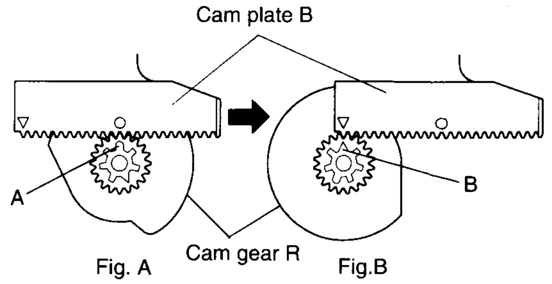


Fig. 2-33-3

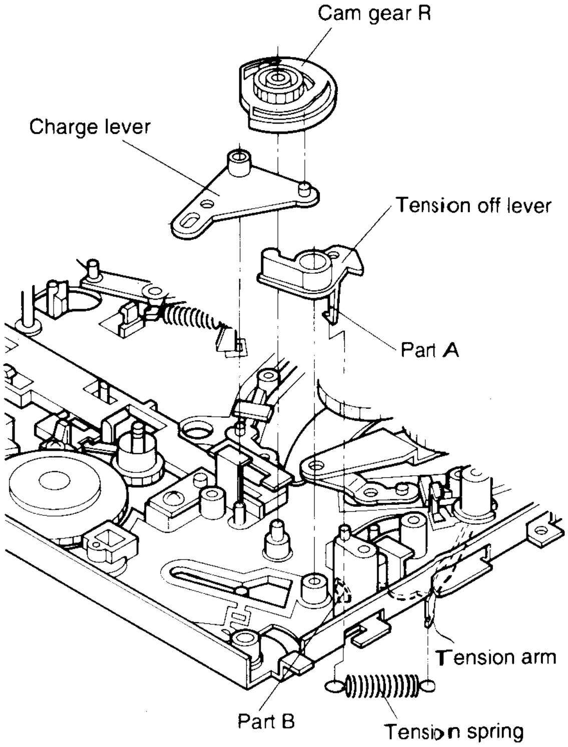


Fig. 2-34-1

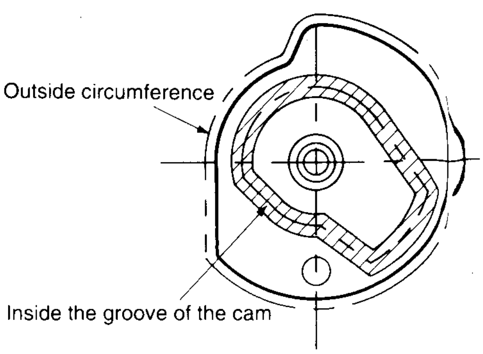


Fig. 2-34-2

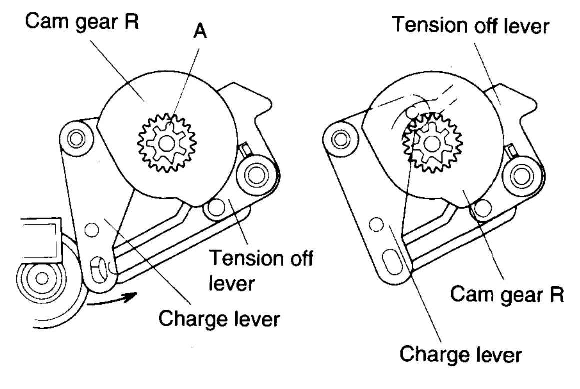

Cam gear R
A
Tension off lever
Tension off lever
Charge lever
Cam gear R
Charge lever

Fig. 2-34-3

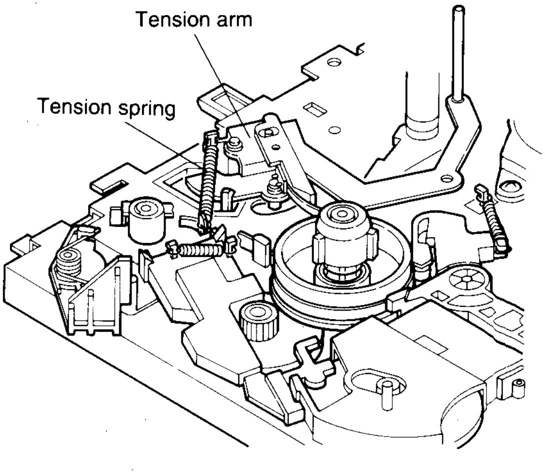

Tension arm
Tension spring

Fig. 2-34-4

2-35 Reel Idler Assembly

(Removal)

① Remove the reel belt and the belt pulley.
(Refer to Para. 2-28 for the removal method.)

② Remove the two screws (ⓐ and ⓑ) holding the reel idler assembly.

③ Unfasten the two catches shown in Fig. 2-35-2 and push the reel idler assembly to remove it, with the deck right side up.

(Installation)

① Insert the part B of the reel idler assembly under the plate cam B as shown in Fig. 2-35-1 and ensure projection A enters the hole on the main plate. Position the reel idler assembly so that its screw holes are aligned and secure it with the two screws (ⓐ and ⓑ).
(Fig. 2-35-3 shows its appearance, viewing from the top.)

② Install the belt pulley and the reel belt.
(Refer to Para. 2-28 for the installation method.)

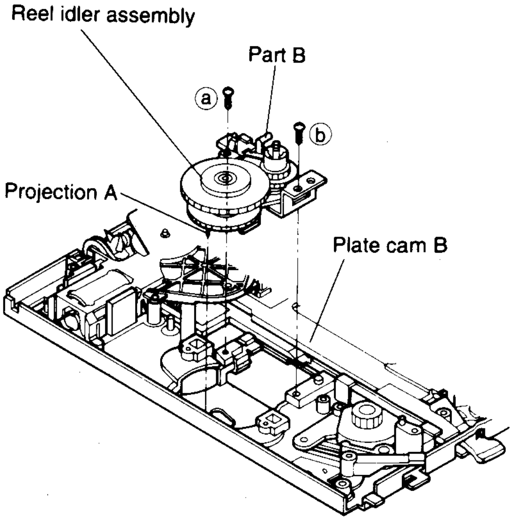

Reel idler assembly
Part B
ⓐ
ⓑ
Projection A
Plate cam B

Fig. 2-35-1

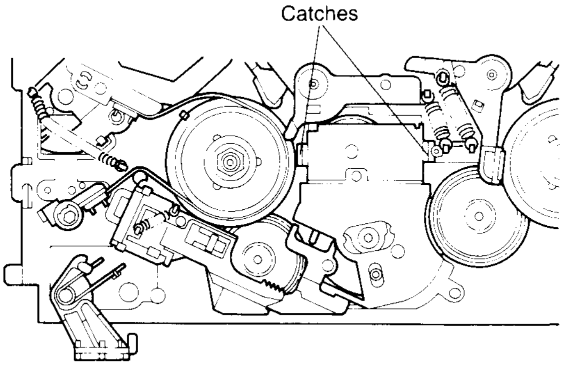


Fig. 2-35-2

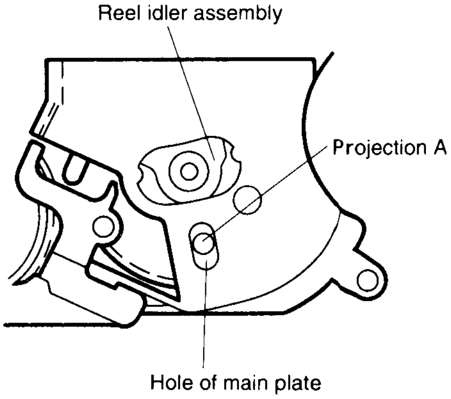

Reel idler assembly
Projection A
Hole of main plate

Fig. 2-35-3

2-36 Cam Plate C and Cam Spring C

(Removal)

① Remove the reel belt and the belt pulley. (Refer to Para. 2-28 for the removal method.)
② Remove the reel idler assembly. (Refer to Para. 2-35 for the removal method.)
③ Remove the loading motor assembly (which holds the motor holder). (Refer to Para. 2-29 for the removal method.)
④ Remove the main gear-J. (Refer to Para. 2-30 for the removal method.)
⑤ Remove the plate-J, the roller-B, and the cam plate-B. (Refer to Para. 2-33 for the removal method.)
⑥ Remove the cam spring-C. (Refer to Fig. 2-36-1.)
⑦ Slide the cam plate-C to the left end.
⑧ Unfasten the catch and raise the cam plate-C to remove it. (refer to Fig. 2-36-1.)

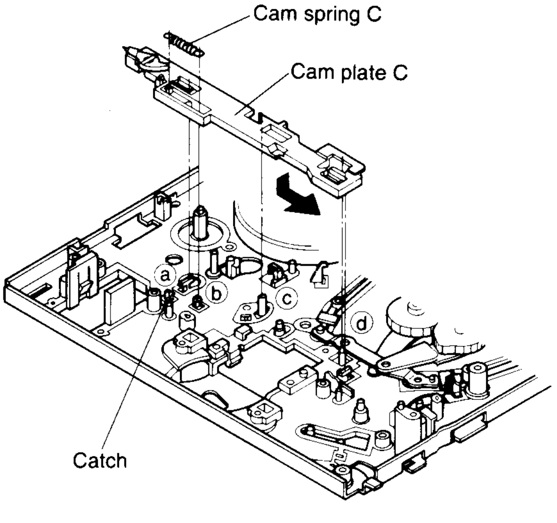

Cam spring C
Cam plate C
a
b
c
d
Catch

Fig. 2-36-1

(Installation)

① Apply specified grease to the area (A~I) shown in Fig. 2-36-2 of the new cam plate-C.
Area A : (G) [859D055050]
Area B~I : (PG641) [859D055030]

② Position the cam plate-C so that the four points(ⓐ, ⓑ, ⓒ and ⓓ) shown in Fig. 2-36-1 enter into the matching holes and slide it to the right end.

③ Install the cam spring-C.

④ Install the cam plate-B, the roller-B, and the plate-J. (Refer to Para. 2-33 for the installation method.)

⑤ Install the main gear-J. (Refer to Para. 2-30 for the installation method.)

⑥ Install the loading motor assembly (which holds the motor holder). (Refer to Para. 2-35 for the installation method.)

⑦ Install the reel idler assembly. (Refer to Para. 2-35 for the installation method.)

⑧ Install the belt pulley and the reel belt. (Refer to Para. 2-28 for the installation method.)

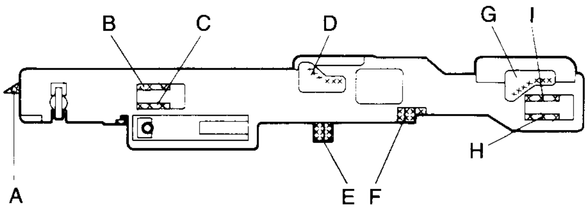


Fig. 2-36-2

2-37 Loading Arm (SP, TU)

(Removal)

① Remove the reel belt and the belt pulley. (Refer to Para. 2-28 for the removal method.)

② Remove the loading motor assembly (which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

③ Remove the main gear-J. (Refer to Para. 2-30 for the removal method.)

④ Remove the plate-J, the roller-B, and the cam plate-B. (Refer to Para. 2-33 for the removal method.)

⑤ Raise the loading arms upward, first SP and then TU, to remove them. (Refer to Fig. 2-37-1)

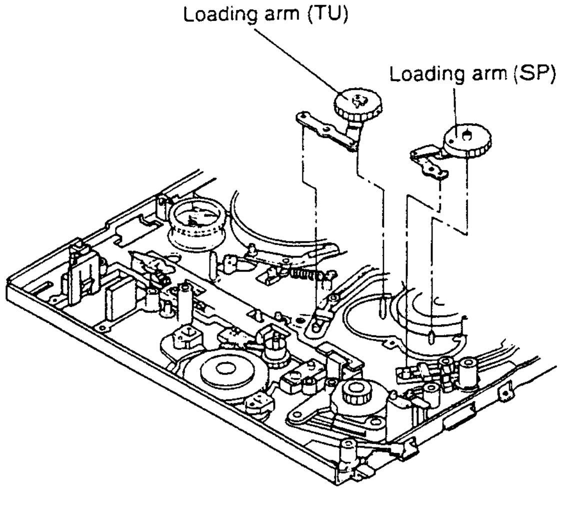


Fig. 2-37-1

(Installation)

① Move the takeup and supply tape guides to the unloaded position. If the supply tape guide is in the loaded position it will be necessary to shift the tension arm in the direction of the arrow in Fig. 2-37-2 at the same time moving the supply tape guide to the unloading position.

② Place the new loading arm (TU) in the position shown in Fig. 2-37-1, then place the loading arm (SP) in the position shown in Fig. 2-37-1 at the same time aligning the marks on the cogs, refer Fig. 2-37-3(shaded area).

③ Apply grease (G)[859D055050] to the area that touches the cogwheel of the loading arm (TU) when the loading arms (SP and TU) are shifted fully to the loading direction. Apply grease (G)[859D055050] to the gear portion that meshes with the plate cam B. (Refer to Fig.2-37-4.)

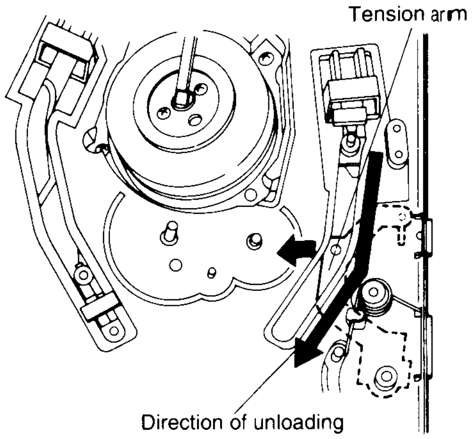


Fig. 2-37-2

④ Install the cam plate-B, the roller-B, and the plate-J. (Refer to Para. 2-33 for the installation method.)

⑤ Install the main gear-J. (Refer to Para. 2-30 for the installation method)

⑥ Install the loading motor assembly (which holds the motor holder). (Refer to Para. 2-29 for the installation method.)

⑦ Install the belt pulley and the reel belt. (Refer to Para. 2-28 for the installation method.)

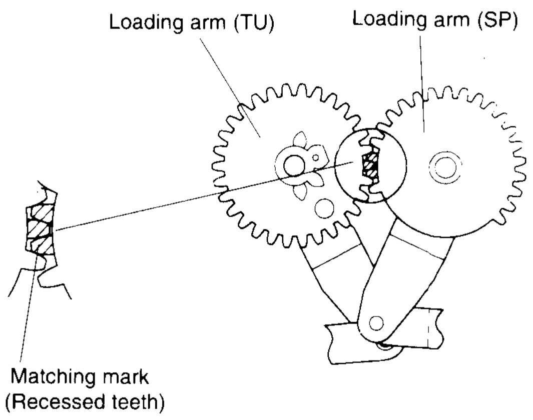

Loading arm (TU)
Loading arm (SP)
Matching mark
(Recessed teeth)

Fig. 2-37-3

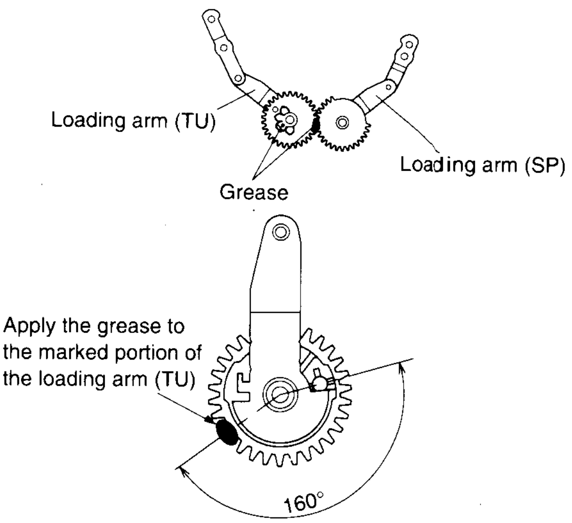

Loading arm (TU)
Loading arm (SP)
Grease
Apply the grease to the marked portion of the loading arm (TU)
160°

Fig. 2-37-4

2-38 Capstan Motor and Lead Card

Note: During removal and installation of the capstan motor, take care not to touch or score the tape running surface, and ensure there is no grease on the outside of the motor's rim.

(Removal)

① Unfasten the reel belt.

② Disconnect the lead card, connected to the PCB of the capstan motor and the PCB-HA/AUDIO. (Refer to Fig. 2-38-1.)

③ Turn the deck the right side up, remove the three screws shown in Fig. 2-38-2 to remove the capstan motor.

Note: During removal, support the capstan motor assembly when it is not secured by its fastening screws. Take care not to touch other parts.

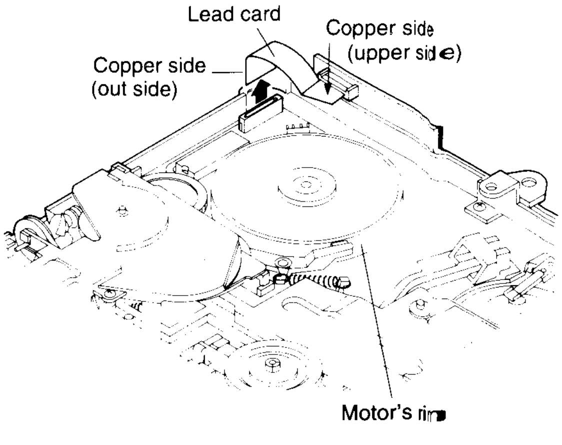

Lead card
Copper side
(upper side)
Copper side
(out side)
Motor's rim

Fig. 2-38-1

(Installation)

① Reverse the deck, position the capstan motor so that the capstan brake is on the outside of the capstan motor.

② Turn the deck the right side up, secure the capstan motor with the three screws shown in Fig. 2-38-2.

③ Bend the new lead card as shown in Fig.2-38-3 and connect it to the connectors of the PCB of the capstan motor and the PCB-HA/AUDIO so that copper side appears as shown in Fig. 2-38-1. Take care not to touch the rotor of the capstan motor.

④ Install the reel belt.
(Refer to Para. 2-28 for the installation method.)

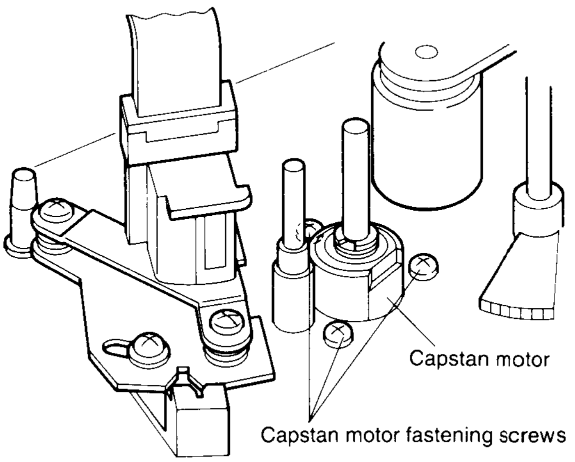

Capstan motor
Capstan motor fastening screws

Fig. 2-38-2

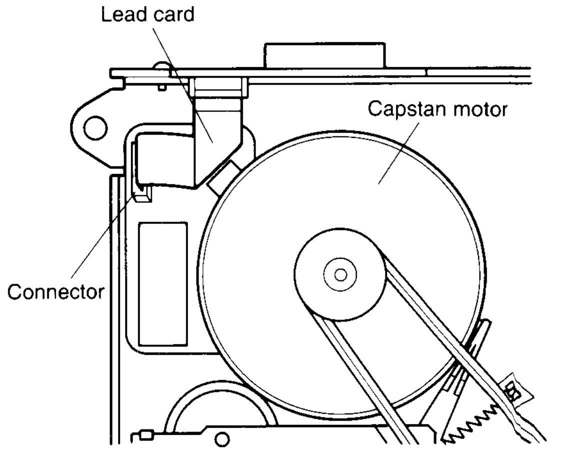

Lead card
Capstan motor
Connector

Fig. 2-38-3

2-39 A/C Head Assembly

(Removal)

Note: During installation of A/C head assembly, take care not to touch or score the tape running surface.

① Lift the stopper shown in Fig. 2-39-1 upward and disconnect the lead connector (bare wire), which is connected to the PCB-A/C-HEAD.

② Remove the two screws (ⓐ and ⓑ) holding the A/C head assembly to the main plate, and to remove the A/C head assembly. (Refer to Fig. 2-39-2.)

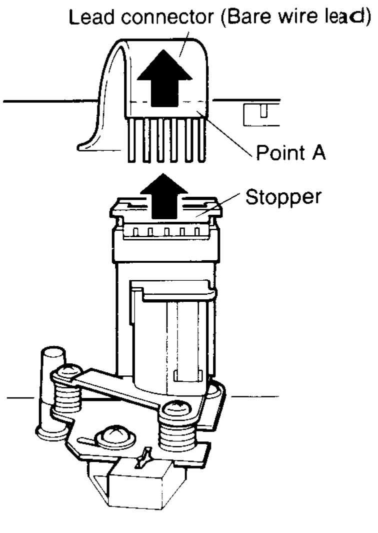

Lead connector (Bare wire lead)
Point A
Stopper

Fig. 2-39-1

(Installation)

① Make sure that the spring(A/C earth spring) is as shown in Fig. 2-39-3.

② Place the A/C head assembly in the position shown in Fig. 2-39-2 and secure it with the two screws(ⓐ and ⓑ).

③ Shift part A downward and lower the stopper. Connect the lead connector to the connector on the PCB-A/C-HEAD as shown in Fig. 2-39-1.

Note: Conduct the A/C head adjustment and the phase adjustment as outlined in Para. 3-3 and 3-4 after the new A/C head is installed.

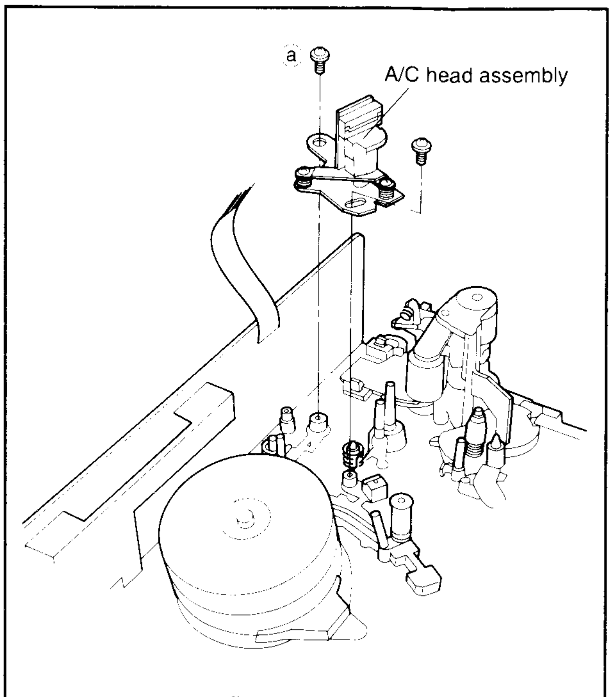


Fig. 2-39-2

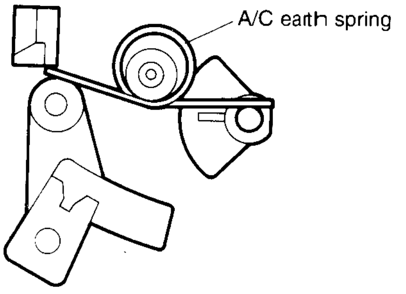


Fig. 2-39-3

2-40 A/C Head

(Removal)

① Disconnect the lead connector connected to the PCB-A/C-HEAD. (Refer to Item ① of Para. 2-39 for the removal method.)

② Remove the three screws(ⓐ,ⓑ and ⓒ), shown in Fig. 2-40-1 to remove the A/C head.

③ Unsolder the PCB-A/C HEAD from the A/C head.(Refer to Fig. 2-40-1.

(Installation)

① Install the A/C head with the A/C spring and the three screws(ⓐ,ⓑ and ⓒ) as shown in Fig. 2-40-1.

Note: When installing the A/C head on the A/C plate, the base plate of the A/C head must be parallel to the A/C plate and the spacing between them should be as specified in Fig. 2-40-2.

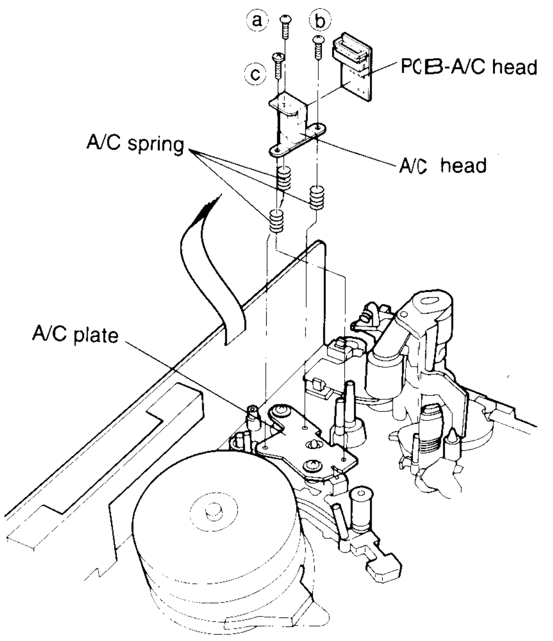


Fig. 2-40-1

② Connect the lead connector to the PCB-A/C-HEAD. (Refer to Item ③ of Para. 2-39 for the installation method.)

③ Perform the A/C head adjustment as outlined in Para. 3-3 and the phase adjustment as outlined in Para. 3-4.

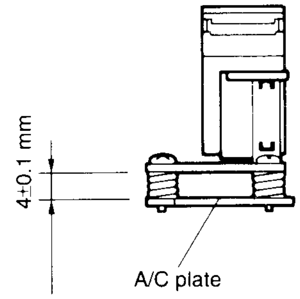


Fig. 2-40-2

2-41 Supply & Takeup Guide Rollers

(Removal)

① Loosen the set screws with a hexagon key so that the guide rollers rotate freely.

② Turn the height adjustment screws at the top of the guide rollers counterclockwise with a height adjustment screwdriver to loosen them. Lift the guide roller upward to remove them from the tape guides.(Refer to Fig. 2-41-1)

(Installation)

① Make sure that the rubber rings are fixed to the fastening thread portions of the new guide rollers.

② Perform the following steps ③ to ⑤ to seat in the rubber rings.

③ Slowly turn the guide rollers clockwise until the rubber rings are firmly seated.

④ Turn the guide rollers a further 1/6 of a turn clockwise and then turn them one turn counter-clockwise.

⑤ Slowly turn the guide rollers clockwise until they become firmly seated again. Turn the guide rollers a further 1/6 of a turn clockwise.

⑥ Secure the guide rollers lightly with the set screws. Perform the mechanism check and adjustment of the FM envelope as outlined in Para. 3-2.

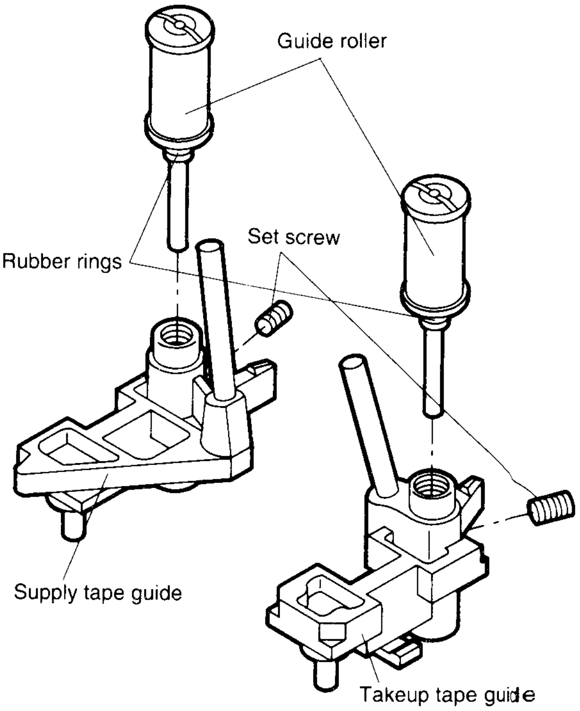


Fig. 2-41-1

2-42 Cleaning Roller, Cleaning Arm, Cleaning Lever, and Cleaning Spring

(Removal)

① Remove the PCB-HA/AUDIO.
(Refer to Para. 2-8 for the removal method.)

② Unfasten the catch to remove the cleaning roller.
(Refer to Fig. 2-42-1)

③ Turn part A of the cleaning assembly clockwise as shown in Fig. 2-42-2 to release the catch part B Fig. 2-42-2 and Fig. 2-42-3(c). Release the catch part E and remove the cleaning assembly from the shaft.

④ Remove the cleaning spring to detach the cleaning arm and the cleaning lever.

(Installation)

① Attach the cleaning arm to the cleaning lever and turn it clockwise as shown in Fig. 2-42-3(c). Make sure that the cleaning arm and the cleaning lever turn without binding.

② Hook one end of the cleaning spring with the boss (point C), projecting from the cleaning arm, and the other end to point D of the cleaning lever as shown in Fig. 2-42-3(d).

③ Place the cleaning assembly in the position shown in Fig. 2-42-1, and in the direction shown in Fig. 2-42-2(b). Turn the part A, shown in Fig. 2-42-2, counterclockwise to set the part B under the A/C plate of the A/C head assembly. Make sure that the spring hooks with the boss of the main plate shown in Fig. 2-42-2. Shift the part A in the direction shown by the arrow and release to make sure that it returns.

④ Insert the cleaning roller into the position shown in Fig. 2-42-1 to install it.

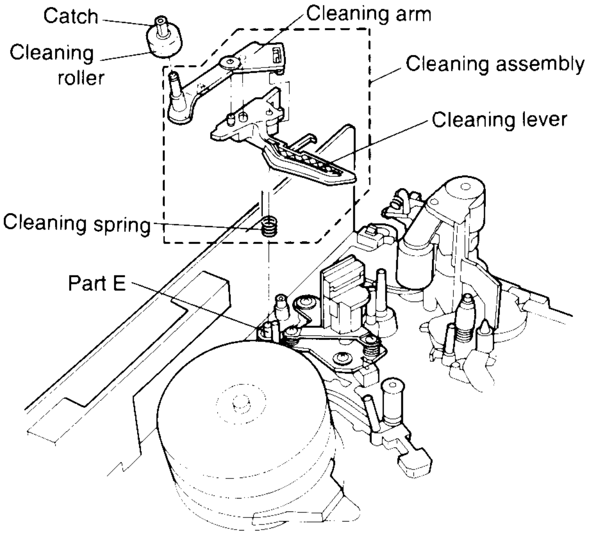

Catch
Cleaning roller
Cleaning arm
Cleaning assembly
Cleaning lever
Cleaning spring
Part E

Fig. 2-42-1

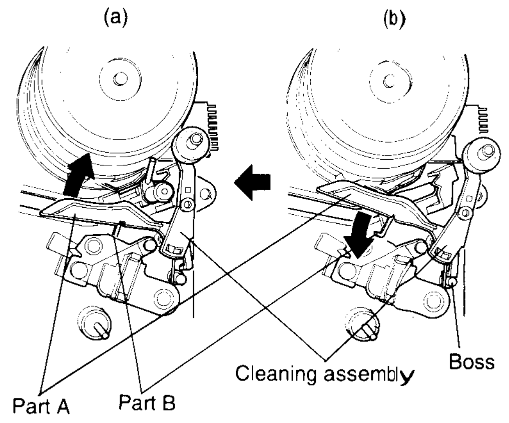

(a)
(b)
Part A
Part B
Cleaning assembly
Boss

Fig. 2-42-2

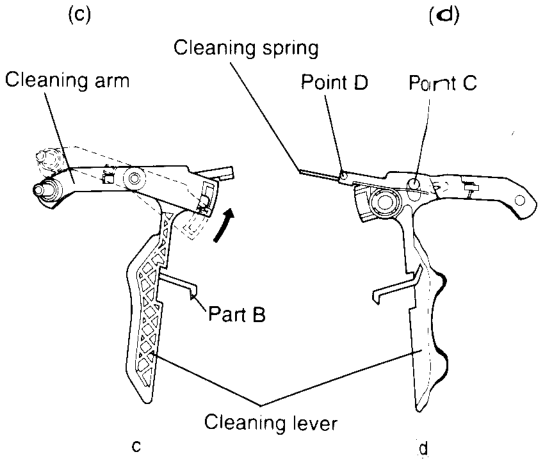

(c)
(d)
Cleaning spring
Cleaning arm
Point D
Point C
Part B
Cleaning lever
c
d

Fig. 2-42-3

2-43 Supply & Takeup Tape Guide Assemblies

(Removal)

① Remove the cassette housing.
(Refer to Para. 2-1 for the removal method.)

② Remove the PCB-HA/AUDIO.
(Refer to Para. 2-8 for the removal method.)

③ Remove the cleaning assembly.
(Refer to item ④ of Para. 2-42 for the removal method.)

④ Unscrew the three screws (ⓐ, ⓑ and ⓒ) to remove the drum base together with the drum assembly.
(Refer to Fig. 2-43-1.)

⑤ Slide the supply and takeup tape guide assemblies to the end of the loaded position by either of the following methods.

- Supply voltage (approximately +5V voltage on the red wire) to the loading motor as in ② of the removal method in Para. 2-19.
- Turn part A of pulley worm J by hand, in the direction shown by the arrow (a) as shown in Fig. 2-43-3. Raise the supply and takeup tape guide assemblies upward to remove them.

(Installation)

① Apply grease (PG-641) [859D055030] to the area shown in Fig. 2-43-2 of the supply tape guide assembly.

② Install the supply and takeup tape guide assemblies so that they respectively enter the holes at the ends of the loading arms (SP and TU)attached to the reverse side of the deck as shown in Fig. 2-43-1.

③ Slide the supply and takeup tape guide assemblies to the unloaded position, by either of the following methods so that the upper hole of the mode switch aligns with that of the cogwheel as shown in Fig. 2-43-4.

- Supply voltage (approximately 5V), reversing the polarity used in ④ of the removal method, to the loading motor as ⑤ of the installation method in Para. 2-19.
- Turn part A of the pulley worm J by hand, in the direction shown by the arrow (b) as shown in Fig. 2-43-3.

④ Make sure that the hole of the gear joint J aligns with the matching mark of the main plate, and the matching mark of the gear pinch with that of the mode switch as shown in Fig. 2-43-5.

⑤ Install the drum base on which the drum assembly is attached and secure it with the three screws (ⓐ,ⓑ and ⓒ) as shown in Fig. 2-43-1.
(Tighten the screws in the order ⓐ→ⓑ→ⓒ.)

⑥ Install the cleaning assembly.
(Refer to Item ③ of Para. 2-42 for the installation method.)

⑦ Install the PCB-HA/AUDIO.
(Refer to Para. 2-8 for the installation method.)

⑧ Install the cassette housing.
(Refer to Para. 2-1 for the installation method.)

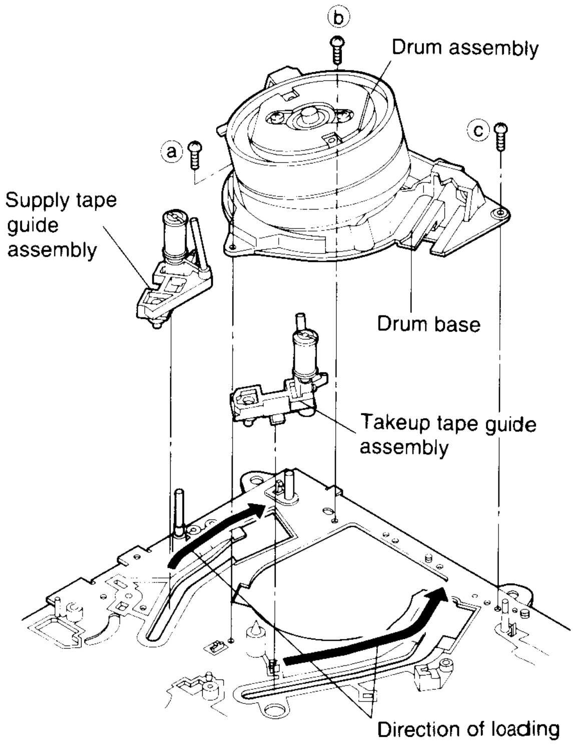


Fig. 2-43-1

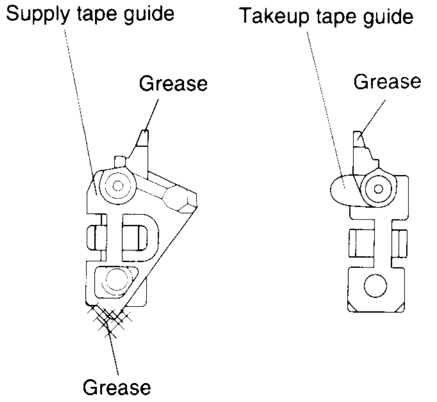


Fig. 2-43-2

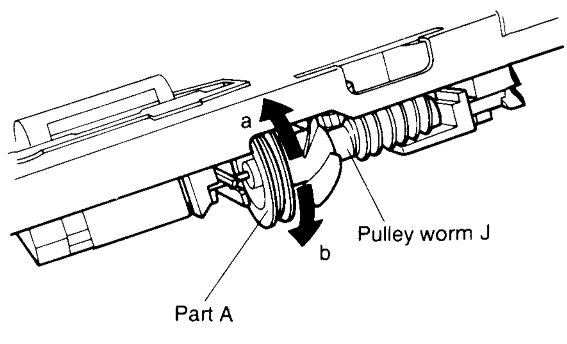


Fig. 2-43-3

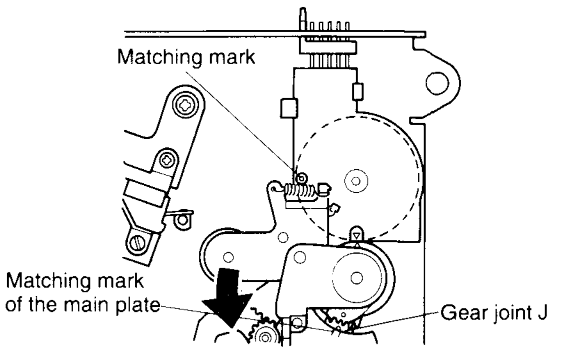

Matching mark
Matching mark of the main plate
Gear joint J

Fig. 2-43-4

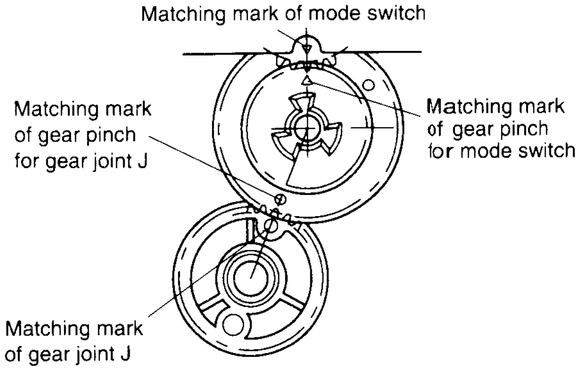

Matching mark of mode switch
Matching mark of gear pinch for gear joint J
Matching mark of gear pinch for mode switch
Matching mark of gear joint J

Fig. 2-43-5

2-44 Drum Base Spring

(Removal)

① Remove the drum base spring between the drum base and the drum assembly. (Refer to Fig. 2-44-1.)

Note: If the drum base spring is difficult to remove, remove the drum assembly in advance. (Refer to Para.2-10)

Note: During removal and installation of the drum assembly, do not touch the tape running surface with your hands.

(Installation)

① Set the drum base spring in the gap between the drum base and the drum assembly. Make sure that the drum base spring is secure enough not to fall out.

② Apply grease (PG-641) [859D055030] to the area of the drum base spring as shown in Fig. 2-44-1.

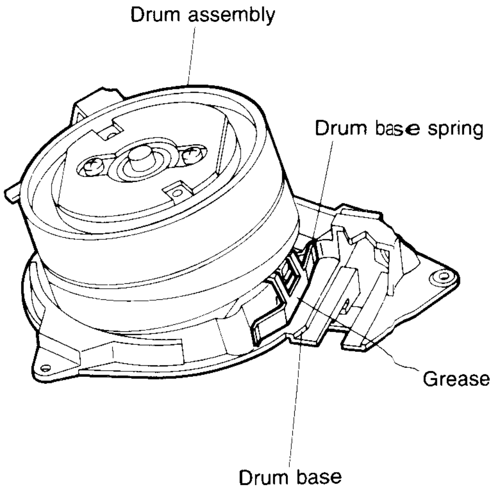

Drum assembly
Drum base spring
Grease
Drum base

Fig. 2-44-1

2-45. Replacement of ASSY IMPEDANCE ROLLER

(Removal)

① Unfasten the catch to remove the FLY WHEEL J.

② Remove the IMPEDANCE ROLLER SPRING-J from the catch ⓐ shown in Fig. 2-45-2.

③ Shift the ASSY IMPEDANCE ROLLER in the direction shown by the arrow. Unfasten the catch ⓑ and raise the ASSY IMPEDANCE ROLLER to remove it from the HOLDER TG.

④ Unfasten two catches of the HOLDER TG on the reverse side to remove the HOLDER TG. [Fig. 2-45-4]

(Installation)

① Mount the HOLDER TG on the MAIN PLATE. [Fig. 2-45-4]

② Hook the one side of the IMPEDANCE ROLLER SPRING-J to the catch ⓒ and the other side to the catch ⓓ to install the IMPEDANCE ROLLER SPRING-J on the ASSY IMPEDANCE ROLLER. [Fig. 2-45-3]

③ Install the ASSY IMPEDANCE ROLLER, to which the IMPEDANCE ROLLER SPRING-J is attached, on the HOLDER TG.

NOTE: Installation of the ASSY IMPEDANCE ROLLER will be easier by pulling the PCB-HA/AUDIO slightly in the direction shown by the arrow in Fig. 2-45-4.

④ Make sure that the IMPEDANCE ROLLER SPRING-J is hooked at the catch ⓐ of the HOLDER TG shown in the Fig. 2-45-5.

⑤ Install the FLY WHEEL J on the ASSY IMPEDANCE ROLLER so that the side whose hole entrance is cut out diagonally looks up.

⑥ Make sure that three catches are tightly hooked on the FLY WHEEL. If they are not, hook them tightly with the tweezers. [Fig. 2-45-1]

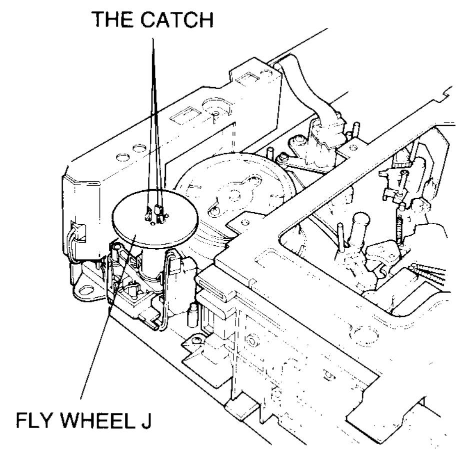

THE CATCH
FLY WHEEL J

Fig. 2-45-1

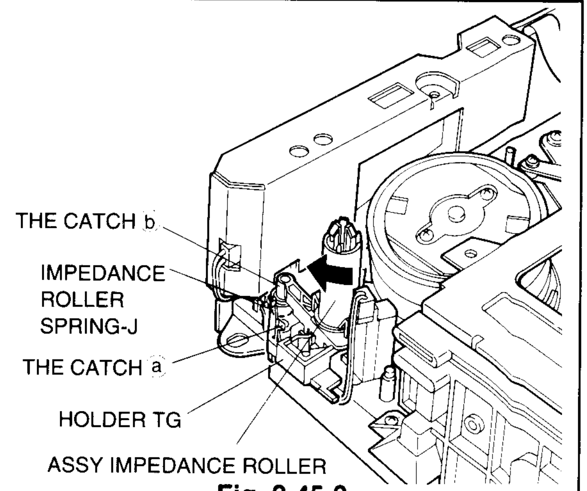

THE CATCH b
IMPEDANCE ROLLER SPRING-J
THE CATCH a
HOLDER TG
ASSY IMPEDANCE ROLLER

Fig. 2-45-2

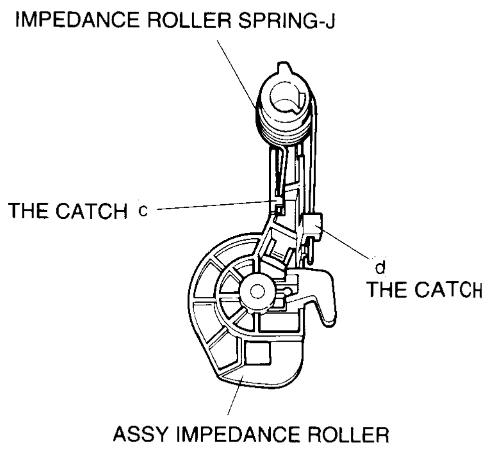

IMPEDANCE ROLLER SPRING-J
THE CATCH c
d
THE CATCH
ASSY IMPEDANCE ROLLER

Fig. 2-45-3

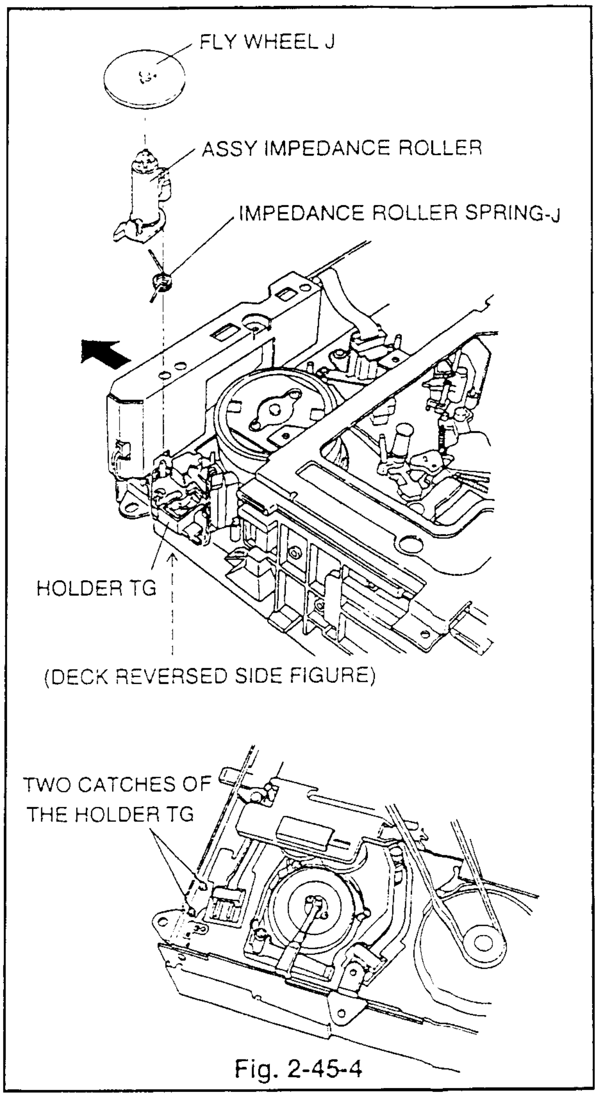

FLY WHEEL J
ASSY IMPEDANCE ROLLER
IMPEDANCE ROLLER SPRING-J
HOLDER TG
(DECK REVERSED SIDE FIGURE)
TWO CATCHES OF THE HOLDER TG

Fig. 2-45-4

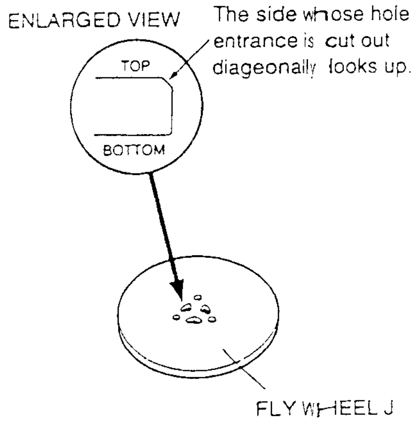

ENLARGED VIEW
TOP
BOTTOM
The side whose hole entrance is cut out diageonally looks up.
FLY WHEEL J

Fig. 2-45-5

3. Interchangeability Adjustment of the Mechanism

Note1: Tracking may need to be preset during interchangeability adjustments of the mechanism. Digital tracking is preset by short circuiting TP5A and TP5B on the PCB-MAIN.

Note2: The adjustments are performed in the playback mode, using the stair step signal of an alignment tape. Connect an oscilloscope to TP2A and external Trig. from TP2H, unless otherwise specified.

3-1 Adjustment of Back-Tension and Tension Pole Position

Run a blank tape for several minutes to break in the reel disks and the transport before making the adjustment.

① Cut out the alignment tape [PM6KH3 : 859C339030] as shown in Fig. 3-1-2. This allows the boss to be adjusted while playing the tape by inserting hexagon wrench through the round hole in the cassette housing shown in Fig. 3-1-1.
(Take care not to allow fragments of the cassette case inside the cassette tape.)

② Playback an alignment tape which has a cut out.

③ Make sure that the tip section A of the tension arm is between the divisions " 2 " and " 2.5 " on the main plate. (Fig. 3-1-1) (The divisions are numbered from the right to left.)

④ If tip section A of the tension arm is to the right of " 2 ", turn the boss clockwise.
If A is to the left of " 2.5 ", turn it counter-clockwise.

⑤ Insert a back tension gauge jig (Part No. 859C345080) and set the VCR to the playback mode.

⑥ When tape travel becomes steady, make sure that the reading of the back tension gauge Jig is 50±6g-cm.

⑦ If the reading is high, replace the tension spring.

⑧ When tape travel is steady, check visually to make sure that the runout of the tension pole is 1mm or less. (Fig. 3-1-3)

⑨ If the runout is not within the specified value, replace the reel disk.

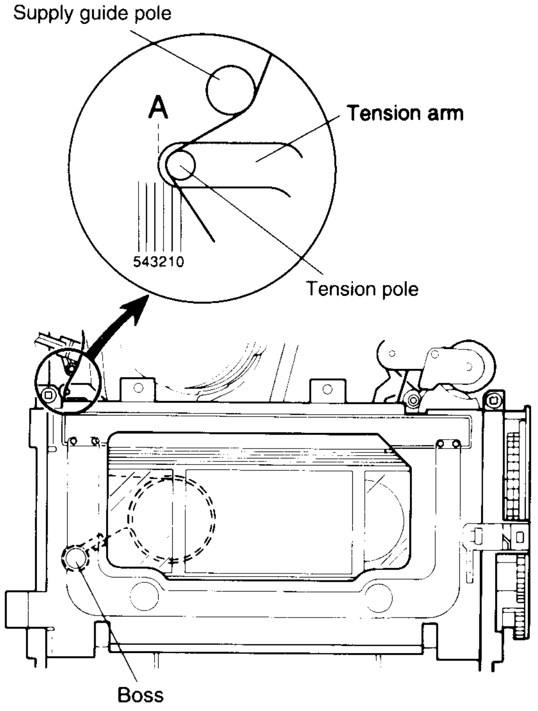


Fig. 3 - 1 - 1

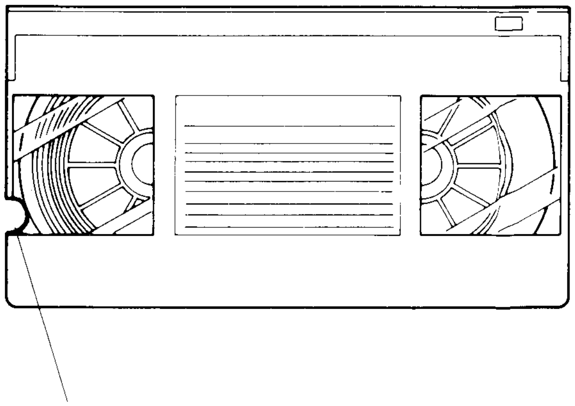


Fig. 3 - 1 - 2

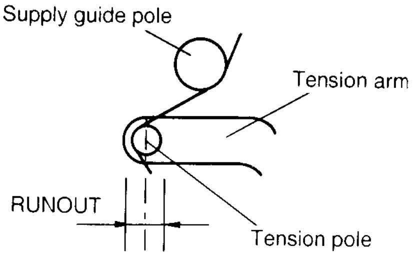


Fig. 3 - 1 - 3

3-2 Check and Adjustment of FM Envelope

3-2-1 Guide Roller Adjustment

① Play back the alignment tape.
[PM6KH3 : 859C339O30]

② Preset tracking. (Refer to NOTE 1 in Para. 3.)

③ Check if the FM waveform is flat like A. (Refer to Fig. 3-2-1)

④ Adjust the height of the supply guide roller if the leading portion (the entry side of the drum) of the FM waveform is not flat, like B or C. (Refer to Fig. 3-2-1) Adjust the height of the takeup guide roller if the trailing portion (the exit side of the drum) is not flat, like D or E.

3-2-2 Adjustment of Supply Guide Roller Height

① Loosen the set screw until the supply guide roller is held lightly when rotated.

② The supply guide roller may be low if the leading portion (the entry side of the drum) of the FM waveform is like B, and high if like C. Turn the adjusting screw at the top of the roller to adjust the height of it so that the FM waveform is flat like A.

- Turn the adjusting screw counter-clockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

③ Coarsely adjust the phase as in Item 3-3-4.

3-2-3 Adjustment of Takeup Guide Roller Height

① Loosen the set screw until the takeup guide roller rotates lightly.

② The takeup guide roller may be low if the trailing portion (the exit side of the drum) of the FM waveform is like D, and high if like E. Turn the adjusting screw at the top of the roller to adjust the height so that the FM waveform is flat like A.

- Turn the adjusting screw counter-clockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

③ Coarsely adjust the phase as in Item 3-2-4.

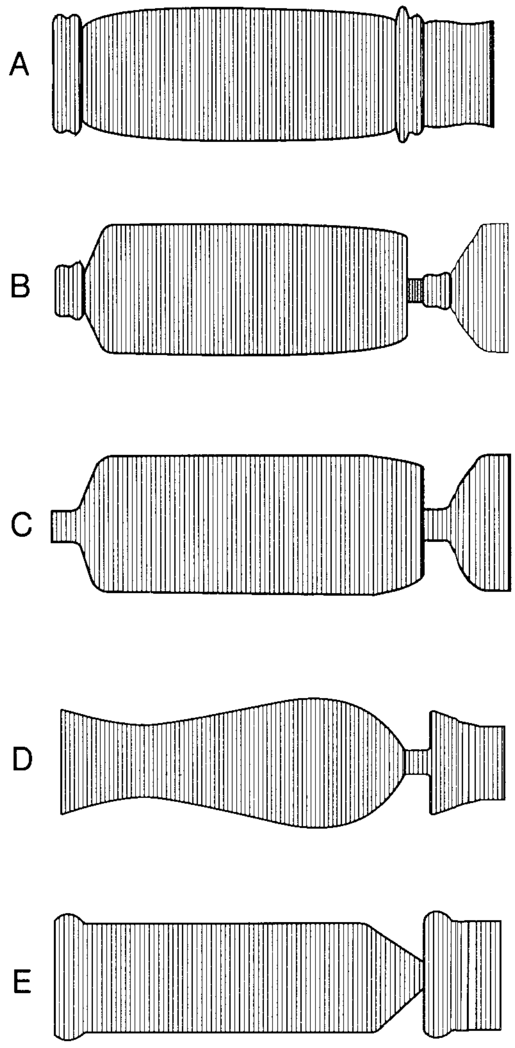


Fig. 3 - 2 - 1

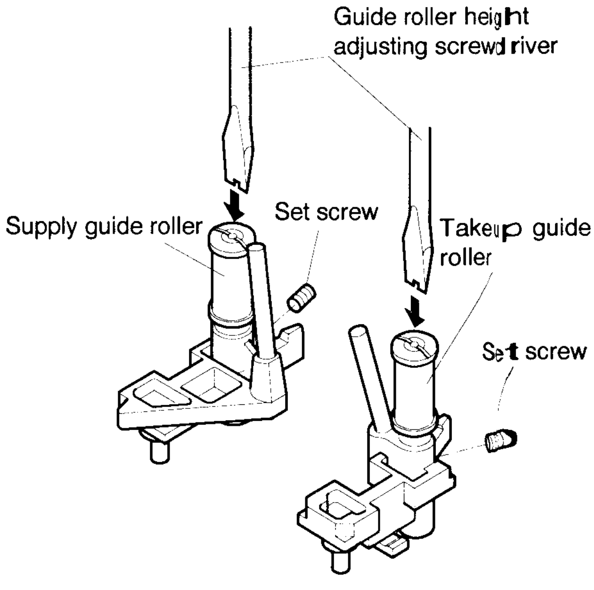


Fig. 3 - 2 - 2

3-2-4 Coarse Adjustment of Phase

① Play back the alignment tape.
[PM6KH3 : 859C339030]

② Preset tracking. (Refer to NOTE 1 in Para. 3.)

③ Check the FM waveform after checking and adjusting the guide rollers.

④ If the amplitude of the FM waveform is narrow like F because of out of phase, adjust it to maximum like G, as shown in Fig. 3-2-4 by the following procedure. Loosen the screw E , insert a screw driver into the groove at the Base A/C and the main plate, and shift the Base A/C right and left.

⑤ Tighten the screw E to secure the base-A/C in place.

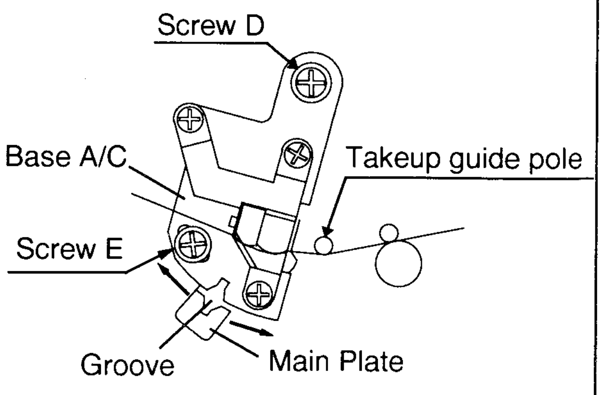


Fig. 3 - 2 - 3

3-2-5 Check of FM Waveform Flatness

① Play back the alignment tape.
[PM6KH3 : 859C339030]

Note: In the following adjustment, follow the next procedure for automatic/manual-selection and adjustment of tracking.

- For the manual tracking adjustment, press an up/down button during reproduction.
- To change the adjustment mode from manual to automatic in the tracking adjustment, press the up and down buttons at the same time.

② In the manual tracking mode, change tracking and make sure the amplitude is changeable while the FM signal remains flat.

③ Adjust tracking so that the amplitude of the FM waveform is maximum. Set the oscilloscope so the amplitude of the FM waveform is 5 division.

④ Adjust tracking so that the peak value of the FM waveform is 4 divisions. Check if the FM waveform B, C, D, and E are within the specified values shown in Fig. 3-2-5.

⑤ If the waveform is not within the specified value, repeat the procedure for checking and adjustment of FM envelope in Item 3-2 from the beginning.

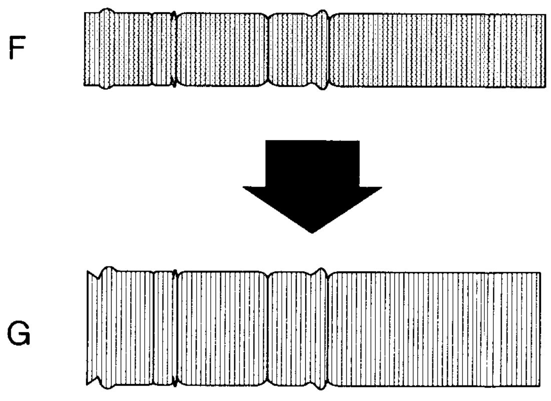
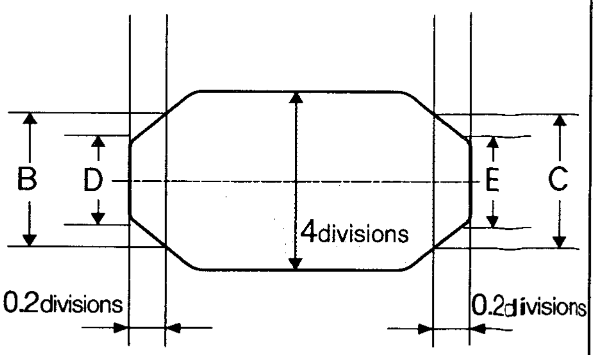


Fig. 3 - 2 - 4



B,C	At least 2.8 of the scale
D,E	At least 2.0 of the scale

Fig. 3 - 2 - 5

3-2-6 Check 1: Tape Running Condition at the Guide Rollers (Refer to Fig. 3-2-6)

① Play back the alignment tape.
[PM6KH3 : 859C339030]

② Visually check if there is a space between the tape and the lower flange of the supply guide roller and takeup guide roller.

③ If there is no space, replace the tape guide as in Item 3-2-7.

④ If EITHER GUIDE ROLLER is replaced. Perform the GUIDE ROLLER adjustment in item 3-2-1. And the FM waveform flatness check in item 3-2-5.

⑤ Load and unload the tape several times, check that flatness of the FM waveform does not change.

⑥ If flatness changes, check if the A/C arm is loose. If it is not loose, replace the A/C arm and repeat the procedure for coarse adjustment of phase in Item 3-2-4.

3-2-7 Replacement of Tape Guides

① If the current tape guide has no marking, replace it with one with a red mark.

② If the current tape guide has a black mark, replace it with one with no mark. If this replacement is not effective, replace the tape guide with one with a red mark.

③ If the current tape guide has a red mark, replace it with another one with red mark.

3-2-8 Check 2: Tape Running Condition on Guide Rollers

① Play back the alignment tape.
[PM6KH3 : 859C339030]

② Lightly press and release the top of the supply guide roller and takeup guide roller. Check that the FM waveform is quickly restored to the previous level.

③ If the waveform is not quickly restored, replace the tape guide as in Item 3-2-7.

④ If the supply tape guide is replaced, check the guide roller as in Item 3-2-1, and if the takeup tape guide is replaced, check the guide roller as in Item 3-2-1. Perform the check FM waveform flatness check as in Item 3-2-5.

⑤ If satisfactory, tighten the set screw of the guide roller on the supply side and the takeup side.

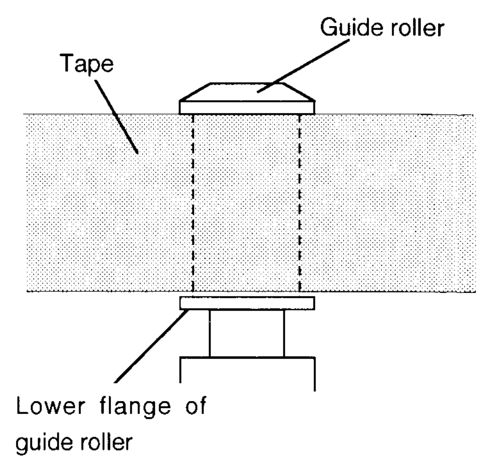


Fig. 3 - 2 - 6

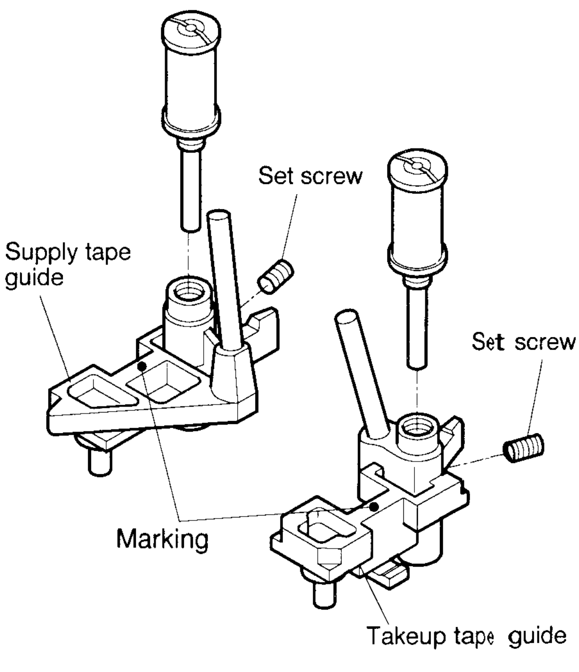


Fig. 3 - 2 - 7

Identification of Tape Guide Item Number
(Example; Parts No. 635B059010
Item No.

Item No. 1	No marking
Item No. 2	Marked with black magic marker
Item No. 3	Marked with red magic marker

*The marking point is on the top of the tape guides shown in figure above.

3-3 Adjustment of A/C Head

3-3-1 Adjustment of A/C Head Slant

① Playback a blank tape.

② Slowly turn the adjusting screw C counter-clockwise to crease the bottom of the tape slightly at the flange portion of the takeup tape guide.

③ Return adjusting screw C slowly to remove the crease.

④ Slowly turn adjusting screw C counter-clockwise again and stop turning just before the tape is creased.

3-3-2 Adjustment of A/C Head Azimuth and Height

① If the height of the CTL head is different from the specified-value in Fig. 3-3-2, adjust the height by the adjusting screw A.

② If adjusting screw A is moved, repeat the procedure in Item 3-3-1 to adjust the A/C head Slant.

③ Connect the oscilloscope to the audio output terminal and set the VCR to the playback mode.

④ Playback the standard tape. [PM6KH3 : 859C339030]

⑤ Turn adjusting screw B to adjust azimuth so that the audio output level is maximum. Set the scope for an amplitude of 5 divisions.

⑥ After the adjustment of ⑤, pull out the screw driver and check if the audio output level is 4.6 divisions or more, when the maximum level (audio output) of ⑤ was set for 5 divisions.

⑦ If the audio output level is below the specified value, repeat the procedure ①~⑥.

⑧ Push the A/C head to the right and left(in the direction of A and A' in Fig. 3-3-1) and the release the A/C head. Check that the audio output level does not change. (Do not push past the point where the audio output level is reduced by 3/4 of its maximum value.)

⑨ Set the VCR to the playback mode and check if the change of the audio output level is less than 2dB.

⑩ If the change is over 2dB, adjust the A/C head slant again and recheck.

⑪ If not satisfactory, replace the takeup tape guide complying with the following procedure and repeat this adjustment.

- If the original tape guide has no marking, replace it with the one with a black mark.
- If the original tape guide has a black mark, replace it with one with a black mark.
- If the original tape guide has a red mark, replace it with the one with a red mark. If this replacement is not effective, replace it with one with a black mark.

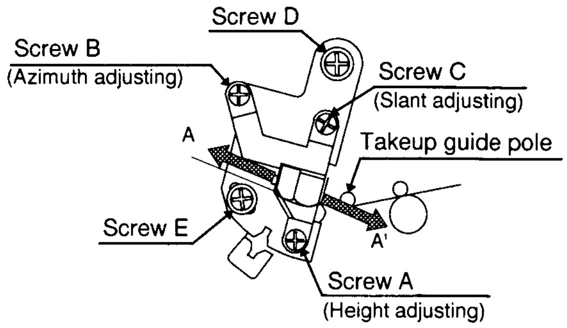


Fig. 3 - 3 - 1

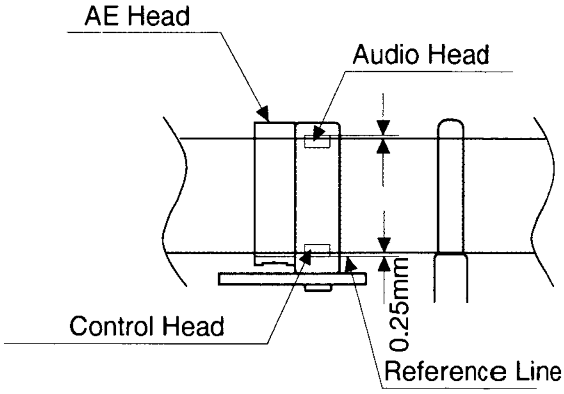


Fig. 3 - 3 - 2

6 kHz Audio output signal

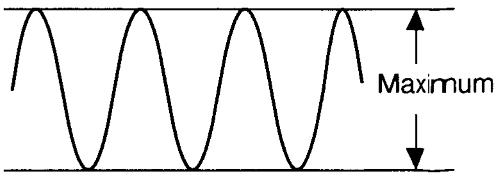


Fig. 3 - 3 - 3

Identification of Tape Guide Item Number
(Example; Parts No. 635B05901O)
Item No.

Item No. 1	No marking
Item No. 2	Marked with black magic marker
Item No. 3	Marked with red magic marker

* The marking point is on the tops of the Takeup and Supply tape guides.
(Refer to Fig. 3-2-7)

3-4 Adjustment of Phase

① Set the VCR to the playback mode.
(Use the alignment tape specified below to perform adjustment ①~④.)
[PM3KE6 (CH1) 25 : 859C568050]

② Preset tracking. (Refer to NOTE 1 in Para. 3.)

③ Loosen the screw E, insert a screw driver into the gap between the Base A/C and the main plate, and shift the Base A/C right and left to adjust the FM waveform to maximum.

④ Tighten the screw E.

⑤ Play back the alignment tape. (PMX:859C568O70)

⑥ Connect TP2A (the FM waveform output) and the audio output terminal to the oscilloscope, external Trig. to TP2H, and check if the missing portions of the FM waveform and that of the audio waveform are within the specified value (field).
(Refer to Fig. 3-4-2.)

⑦ If they are not within the specified value, repeat the procedure ③.

⑧ Turn the normal tracking control to adjust the FM waveform for maximum and set the oscilloscope so that the waveform is '5' divisions. (Refer to Note in Para. 3-2-5 about tracking adjustment.)

⑨ Preset tracking. (Refer to NOTE 1 in Para. 3.)

⑩ Check that the FM waveform on the oscilloscope is " 4.8 " or more divisions.

⑪ If the FM waveform is below " 4.8 " divisions, perform this adjustment after tracking preset.

⑫ Push the A/C head to the right and left (in the direction of A-A' in Fig. 3-4-1) and then release the A/C head. Check that the amplitude of the FM waveform does not change from that before shifting the A/C head.

⑬ If the amplitude changes, check if the A/C arm shaft is loose. If it is not loose, replace the A/C arm and repeat the procedure of this adjustment from the beginning, after the adjustment of A/C head in Item 3-3.

⑭ Alternately load and unload the tape several times to check that the amplitude of the FM waveform does not change.

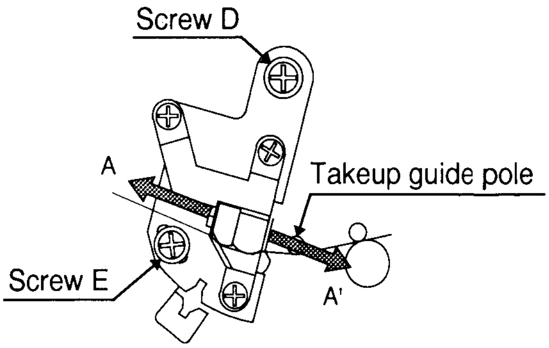


Fig. 3 - 4 - 1

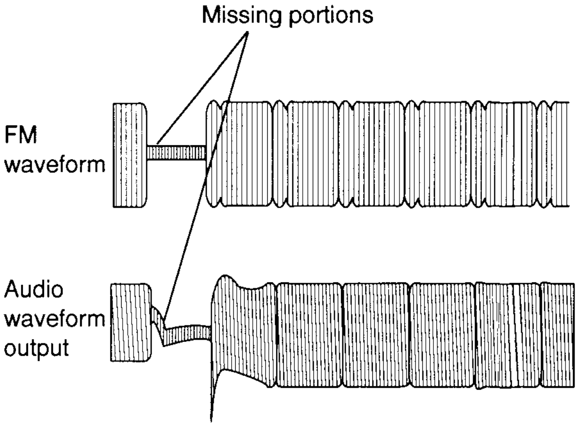


Fig. 3 - 4 - 2

3-5 Adjustment of Takeup Guide Arm Height

① Run a final portion of E-240 blank tape in the reverse search mode.

② Tighten the adjusting nut of takeup tape guide until the tape is creased at the lower flange of the takeup guide pole. Then slowly return the nut and stop at the point where the crease is removed. (During adjustment, use a uncovered cassette tape or raise the cover so that the adjustment can be performed.)

Note: During adjustment, turn the adjusting nut in the loosening direction. Do not turn the nut more than ±1/2 turn.

③ Eject the cassette tape, set the VCR to the reverse search mode again, and check that the tape is not creased at the upper or lower flange of the takeup tape guide.

④ Set the VCR to the playback mode and check that the tape is not creased at the upper or lower flange of the takeup guide pole.

⑤ Run the start portion of E-180 blank tape in the forward search mode and check that the tape is not creased at the takeup guide pole.

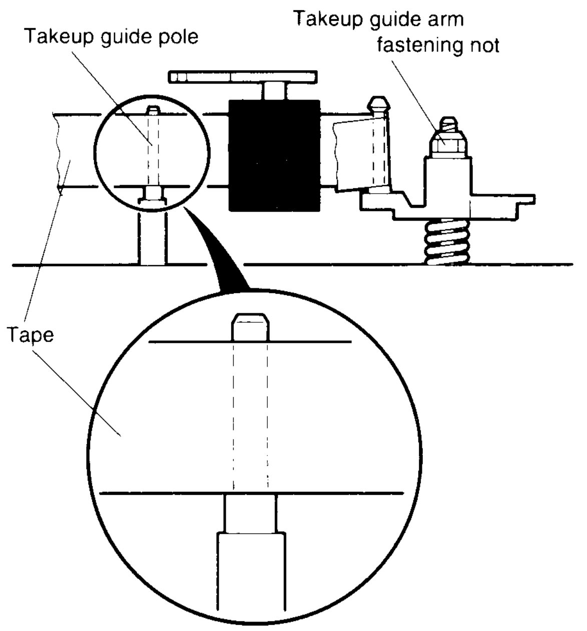


Fig. 3 - 5

4. Servicing for Tape Jamming during the Loading Mode

① Remove the upper cover.
② Remove the front unit.
③ Remove the bottom panel.
④ Reverse the deck and turn the pulley worm J in the direction shown by the arrow in Fig.4-1, observe whether the tape guides move to the unloading position. If they do not, follow the procedure (1).
If they do, follow the procedure (2).

(1) If the tape guides do not move (the pulley worm J does not turn);

① Unfasten the clamp holding the leads of the loading motor, which are attached to the side plate of the cassette housing. Unscrew screws (ⓐ and ⓑ) holding the cassette housing as shown in Fig. 4-2.
② Hold the cassette door with a screw driver to keep it open. (Take care not to allow the screw driver to touch other parts of the tape transport.)

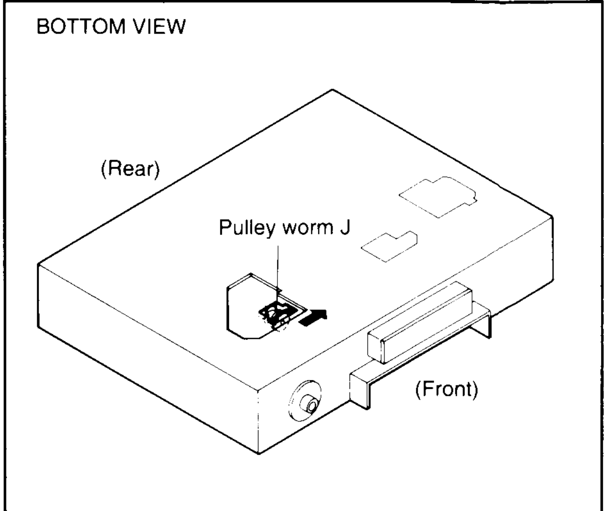


Fig. 4 - 1

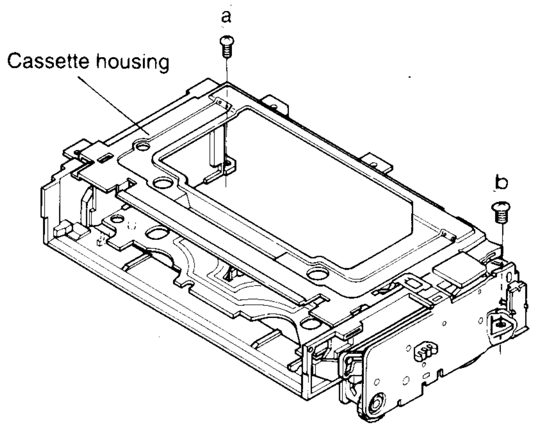


Fig. 4 - 2

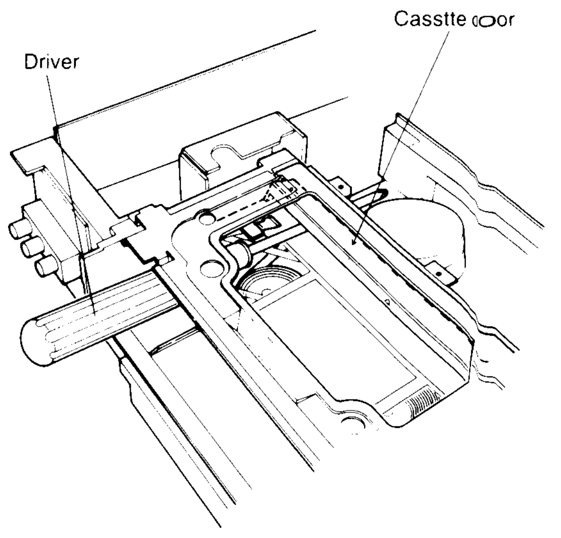


Fig. 4 - 3

③ Open the cassette door fully with your hand. Unfasten the catch to remove the pinch roller arm cap as shown in Fig. 4-4. (Refer to Para. 2-24 for the removal method.)

④ Push part A of the pinch roller arm assembly, shown in Fig. 4-5, in the direction shown by the arrow to make a space between the pinch roller arm assembly and the tape. Remove it together with the pinch cam taking care not to damage the tape.

⑤ Remove the screw driver (refer to Item ②), while holding the cassette door open with your hand. While pushing the tension arm in the direction shown by the arrow in Fig. 4-6 raise the cassette housing upward to remove it from the tape transport as shown in Fig. 4-7. Take care that the grease, which is applied to the main plate, does not adhere to the tape.

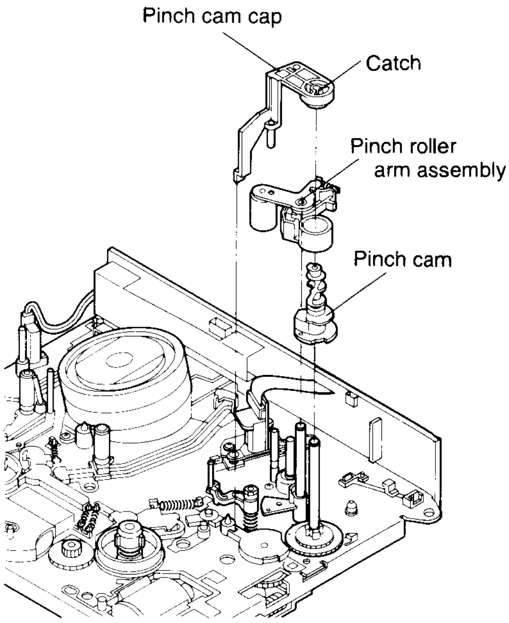

Pinch cam cap
Catch
Pinch roller arm assembly
Pinch cam

Fig. 4 - 4

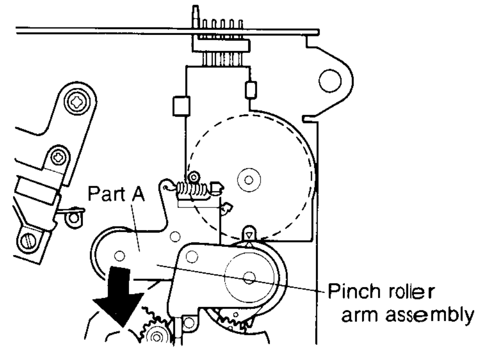

Part A
Pinch roller arm assembly

Fig. 4 - 5

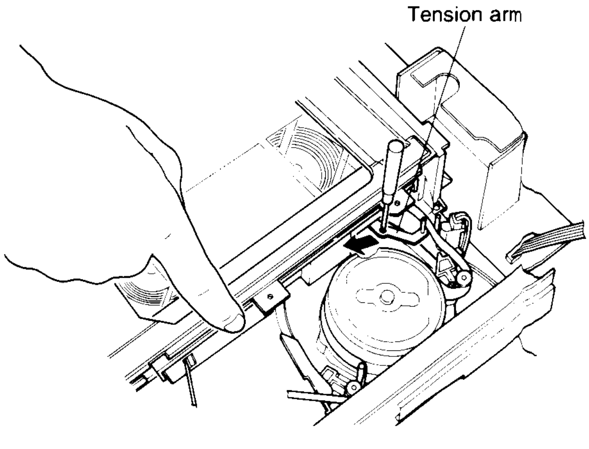

Tension arm

Fig. 4 - 6

⑥ Turn the cassette reel of the cassette tape to wind up the tape as shown in Fig. 4-8.

⑦ Turn the wheel gear shown in Fig. 4-9 in the direction shown by the arrow to eject the cassette tape.

⑧ Reverse the deck and turn the motor pulley J in the direction, shown by the arrow in Fig. 4-1, so that the matching mark M of the mode switch is in the position shown in Fig. 4-10 (the eject position). Make sure that the matching marks of the mode switch and the gear pinch, and those of the gear pinch and the joint gear, respectively, align as shown in Fig. 4-11. Turn the takeup guide arm clockwise to such a degree that takeup guide gear is not in the way of mounting the pinch roller cam to the shaft. Install the pinch roller cam so that its holes align with the triple catch of the gear pinch. (Refer to Para. 2-24 for the installation method.)

⑨ Install the pinch roller arm and the pinch roller arm cap.

⑩ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

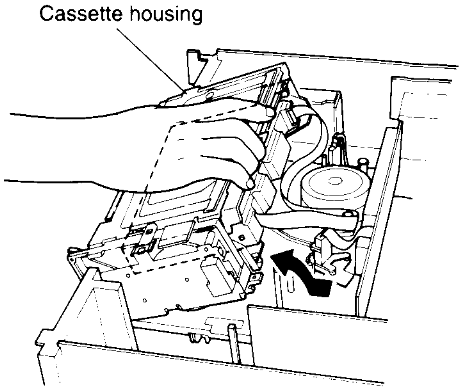


Fig. 4 - 7

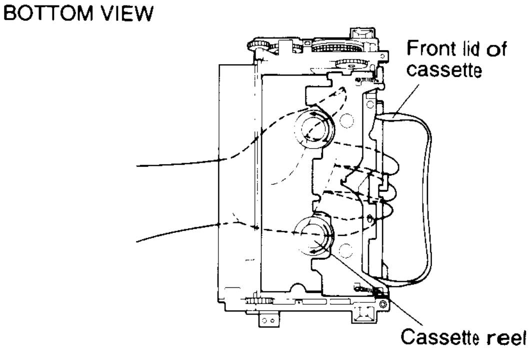


Fig. 4 - 8

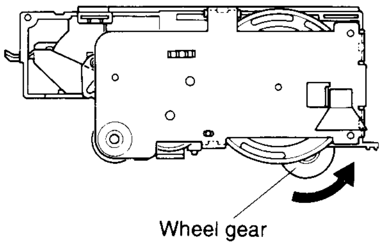


Fig. 4 - 9

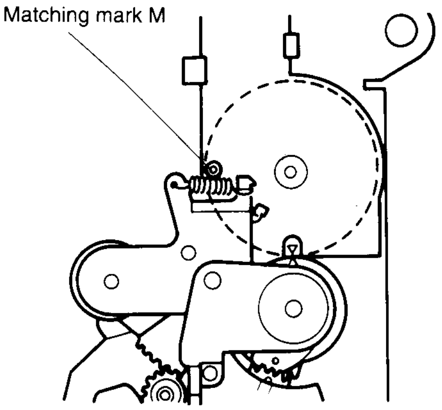


Fig. 4 - 10

(2) If the tape guides move (the pulley worm J turns);

① Reverse the deck and turn the pulley worm J in the direction shown by the arrow in Fig. 4-1 so that the takeup guide arm moves to the end of the unloading cycle.

② Turn the capstan shaft, shown in Fig. 4-12, clockwise to turn the reel so that the tape is wound back into the cassette. (Take care not to scar or stain the capstan shaft. After winding up the tape, clean the capstan shaft with alcohol, refer to Para. 1-2.)

③ Turn the pulley worm J as in Item ① so that the matching mark of the mode switch is in the position shown in Fig. 4-10 (the eject position). Eject the cassette tape.

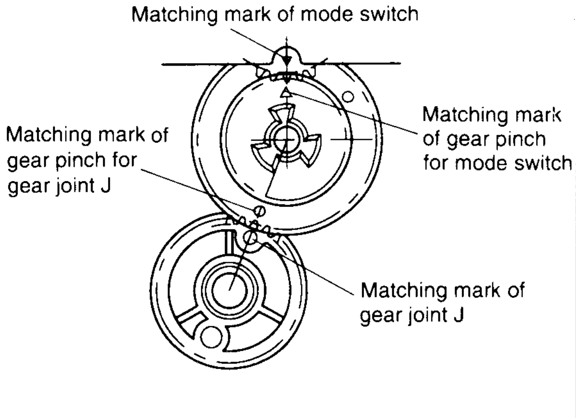

Matching mark of mode switch
Matching mark of gear pinch for gear joint J
Matching mark of gear pinch for mode switch
Matching mark of gear joint J

Fig. 4 - 11

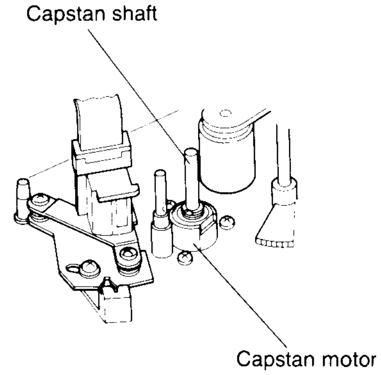

Capstan shaft
Capstan motor

Fig. 4 - 12

SPECIFICATION OF VPS RECORDING SYSTEM

[HS-651V(G) only]

1. VPS Signal

The VPS signal makes it possible during timer recording of television programs to switch on and off the unit at the correct time by using the preprogrammed recording time. The VPS signal is transmitted in the 16th line of the vertical blanking signal. Refer to Fig. 1. The VPS data signal is shown in Fig. 2. The television stations are responsible for changing of the VPS data. These are included in words 11 to 14.

The normal VPS code includes time data and program data. It is transmitted with the program and recognized by the unit as program identification. A program, which was scheduled for the time from 0:99 to 4:00 and the start of which was changed to the previous day, keeps its original label. If the program is extended, the label is valid until 4:00 of the following day, if the correct sending code is received. The maximum starting time for a delayed program is 4:00 of the following day.

2. Expected VPS time and type of VPS recording

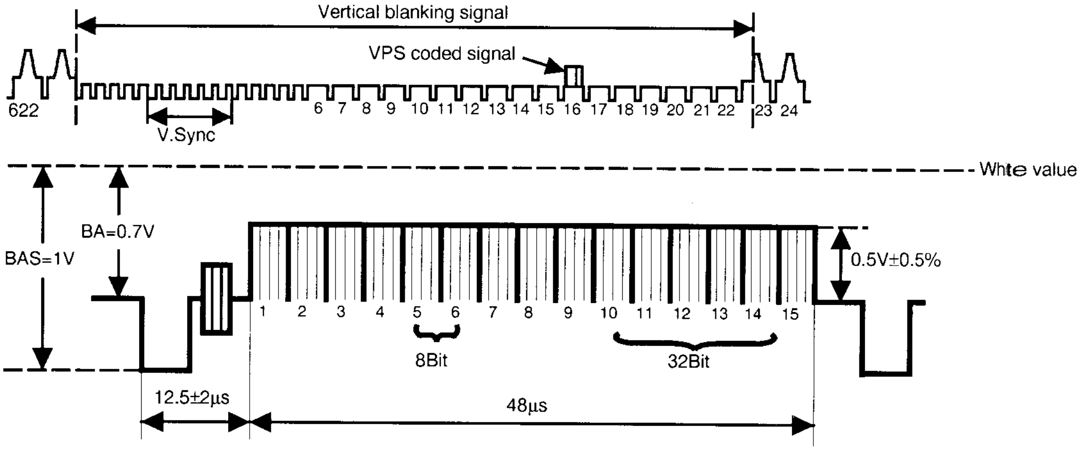
2-1 At 20:00 on the day before the starting time the recorder is switched on and enters the expected VPS time. During the expected VPS time the unit is switched to the corresponding channel and waits for the VPS signal.

2-2 If a VPS signal, which confirms to the preprogrammed signal, is received, the unit switches into the recording mode.

2-3 If no VPS signal or status code is transmitted, the original recording time is used.

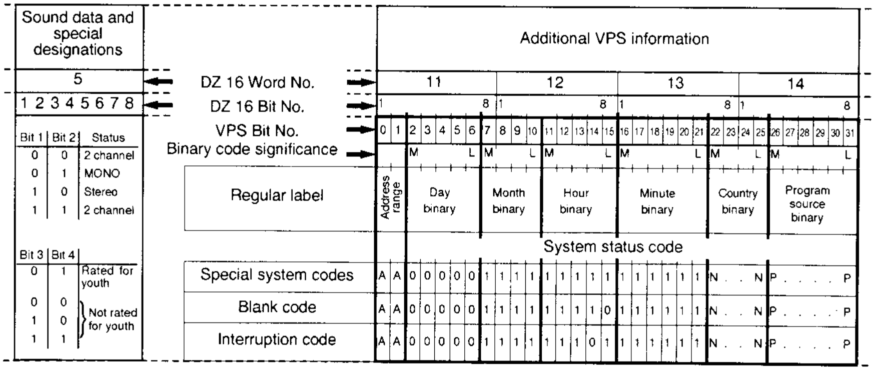
2-4 If an interruption code is transmitted during the VPS recording, the recording is stopped and the unit switches into the VPS stand-by mode. The recording is started, as soon as the regular VPS code is received again.

2-5 If the normal VPS code changes after the programmed timer recording into an unnormal code, the recording is finished.



Vertical blanking signal
VPS coded signal
622
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
V.Sync
White value
BA=0.7V
BAS=1V
0.5V±0.5%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
8Bit
32Bit
12.5±2µs
48µs

Fig. 1 Inserting the data line into the FBAS signal



t
Sound data and special designations
5
1 2 3 4 5 6 7 8
DZ 16 Word No.
DZ 16 Bit No.
VPS Bit No.
Binary code significance
Additional VPS information
11
12
13
14
1
8
M
L
Regular label
Address range
Day binary
Month binary
Hour binary
Minute binary
Country binary
Program source binary
System status code

Bit 1	Bit 2	Status
0	0	2 channel
0	1	MONO
1	0	Stereo
1	1	2 channel

Bit 3	Bit 4	
0	1	Rated for youth
0	0	Not rated for youth
1	0	
1	1	

VPS Bit No.	0 1	2 3 4 5 6	7 8 9 10	11 12 13 14 15	16 17 18 19 20 21	22 23 24 25	26 27 28 29 30 31
Regular label	Address range	Day binary	Month binary	Hour binary	Minute binary	Country binary	Program source binary
Special system codes	A A	0 0 0 0 0	1 1 1 1	1 1 1 1 1	1 1 1 1 1 1	N . . N	P . . . . P
Blank code	A A	0 0 0 0 0	1 1 1 1	1 1 1 1 0	1 1 1 1 1 1	N . . N	P . . . . P
Interruption code	A A	0 0 0 0 0	1 1 1 1	1 1 1 0 1	1 1 1 1 1 1	N . . N	P . . . . P

The 2-channel-status is coded 11 at the studio side; 00 has to be considered at the receiving side in special cases only.

M = MSB
L = LSB

A = Actual address range code
N = Actual country code
P = Actual program source code

Fig. 2 Data format of additional information in data line 16

GLOSSARY OF ABBREVIATIONS

A/C	: Audio/Control
ACC	: Automatic Colour Control
A.E	: Audio Erase
AFC	: Automatic Frequency Control
AFT-D	: Automatic Fine Tuning Door Switch
AGC	: Automatic Gain Control
AL	: After Load
AMP	: Amplifier
ANT	: Antenna
A-PB	: Audio-Playback
A-REC	: Audio-Recording
ALC	: Automatic Level Control
B-FS	: Brake Forward Search
B-RS	: Brake Reverse Search
BPF	: Band-Pass Filter
B/W	: Black and White
BS	: Band SW
CASS	: Cassette
CP	: Capstan
CP-FG	: Capstan-Frequency Generator
CP-F/R	: Capstan-Forward/Reverse
CP-M	: Capstan-Motor
CONV	: Converter
CTL	: Control
C-LAMP	: Cassette Lamp
C-ILAMP	: Cassette Indicator Lamp
CE	: Chip Enable
$\overline{\textbf{CE}}$	: Not Chip Enable
CK	: Clock
CL	: Clear
CNT	: Counter
CP R-R	: Capstan Reverse Rotation
CS-1	: Cassette Switch 1
CS-2	: Cassette Switch 2
DAL	: Delay-After Loading
DEMOD	: Demodulator
DET	: Detector
DL	: Delay Line
DL-REV	: During Reverse
DL-FWD	: During Forward
DOC	: Drop Out Compensator
DL-SL	: During Slow
DL-$\overline{\textbf{SS}}$	: During Not Speed Search
DOP	: Drop Out Pulse
EF	: Emitter Follower
EMPHA	: Emphasis
EQ	: Equalizer
EE	: Electronic-Electronic
ES	: End Sensor
FE-H	: Full Erase Head
FF	: Fast Forward
FG	: Frequency Generator
FL-SW	: Front Loading SW
FLM	: Front Loading Motor
F/R-SW	: FF/Rewind Switch
F/R	: Forward/Reverse
FS	: Forward Search
G	: Ground
HE	: Hall Element
H-LED	: Humidity-LED
H-SENS	: Humidity-Sensor
HPF	: High-Pass Filter
LIM	: Limiter
LPF	: Low-Pass Filter
LM	: Loading Motor
MDA	: Motor Drive Amplifier
MC	: Mechanical Control
MIC	: Microphone
MOD	: Modulator
$\overline{\textbf{N}}$	: Not Normal
OPE	: Operation
OSC	: Oscillator
O-PWV	: ON/OFF Command from Remote Decorder
PB	: Play Back
PG	: Pulse Generator
P/R-SW	: P.B/REC-SW
PCB	: Printed Circuit Board
PIC	: Picture Control
P/R	: Play/Record
PSC	: Pulse swallow control
PWT-SET	: Power TV Set
PWV	: ON/OFF Command to B + Switching Circuit
REC	: Recording
REF	: Reference
RIS	: Record Inhibit Switch
REW	: Rewind
REG	: Regulator
RS	: Reverse Search
REC-2	: Record Command for the Fine Editing Circuit
R-FS	: Reel Drive Forward Search
R-P/R	: Reel Drive Play/Record
S/AL	: Stop After Load
SL	: Slow
SLOCK	: Slow OK
S/P	: Still/Pause
SS	: Start Sensor
SRV-REC	: Servo Record
$\overline{\textbf{SS}}$	: Not Speed Search
S-STOP	: Stop Command
STOK	: Still OK
STW	: Stop Watch
SENS	: Sensor
STBY	: Stand By
TM	: Take up Motor
T-REC	: Timer-Record
T.P	: Test Point
TR	: Transistor
TU-P	: Tuner-Power
UL	: Unload
VS	: Voltage Synthesizer
V.SYNC	: Vertical Sync
VCO	: Voltage Controlled Oscillator
VXO	: Variable Crystal Oscillator
W/D	: White/Dark
X'OSC	: Crystal Oscillator
Y/C	: Luminance/Chrominance

CHIP PARTS REPLACEMENT

CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts which are used for certain circuit elements. When replacing these parts, note the following cautions.

Cautions:

A. Use fine tipped, well insulated soldering pencil (iron), about 30 watts, and tweezers.
B. Melt the solder and remove the Chip Parts carefully not to tear off the copper foil of the printed circuit board.
C. Discard removed chips; do not reuse them.
D. Do not apply heat for more than 3 seconds to new chip Parts.
E. Avoid using a rubbing stroke when soldering.
F. Take care not to scratch, or damage the Chip Parts when soldering.
G. Supplementary cementing is not required.

1 Removal of Chip Parts (Resistors, capacitors, etc.)

A. Grasp the part with tweezers. Melt the solder at both sides alternately, remove one side of the part with a twisting motion.
B. Melt the solder at the other side and remove the part.

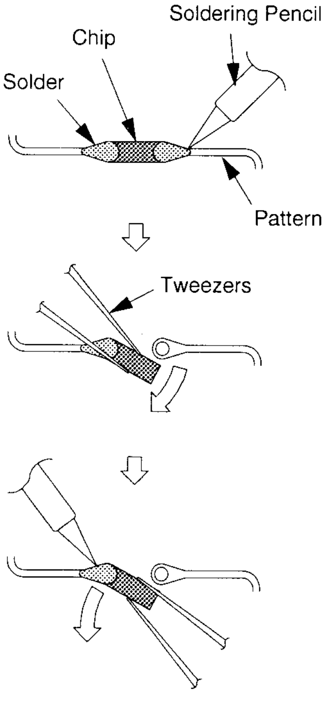

Soldering Pencil
Chip
Solder
Pattern
Tweezers

Fig. 1

2 Removal of Chip Parts (Transistors)

A. Melt the solder of one lead. Lift the side of that lead upward.
B. Simultaneously melt the solder of the two remaining leads and lift the part.

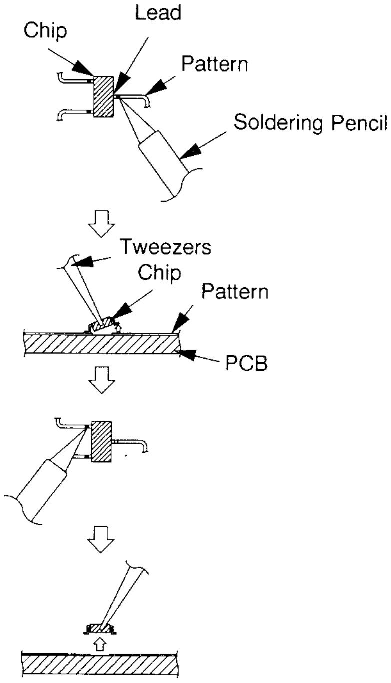

Lead
Chip
Pattern
Soldering Pencil
Tweezers
Chip
Pattern
PCB

Fig. 2

3 Replacement

A. Presolder the contact points of the circuit pattern.
B. Press the part downward with tweezers and apply the soldering pencil as shown in Fig. 3.

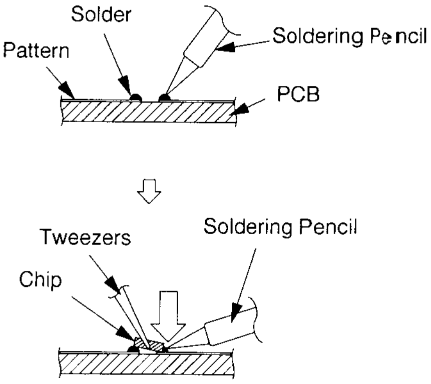
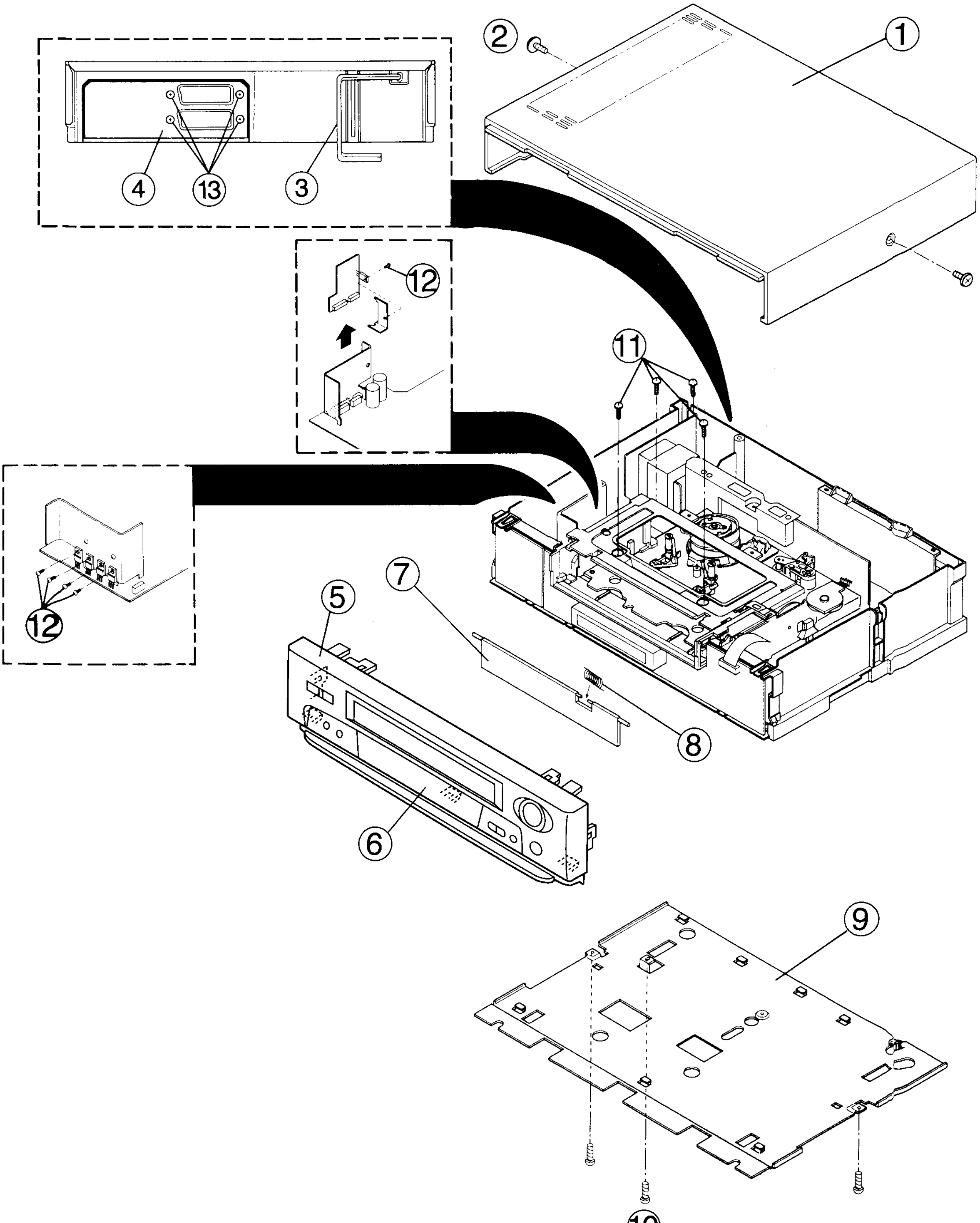

Solder
Pattern
Soldering Pencil
PCB
Tweezers
Soldering Pencil
Chip

Fig. 3

PARTS LIST

1. CABINET ASSEMBLY



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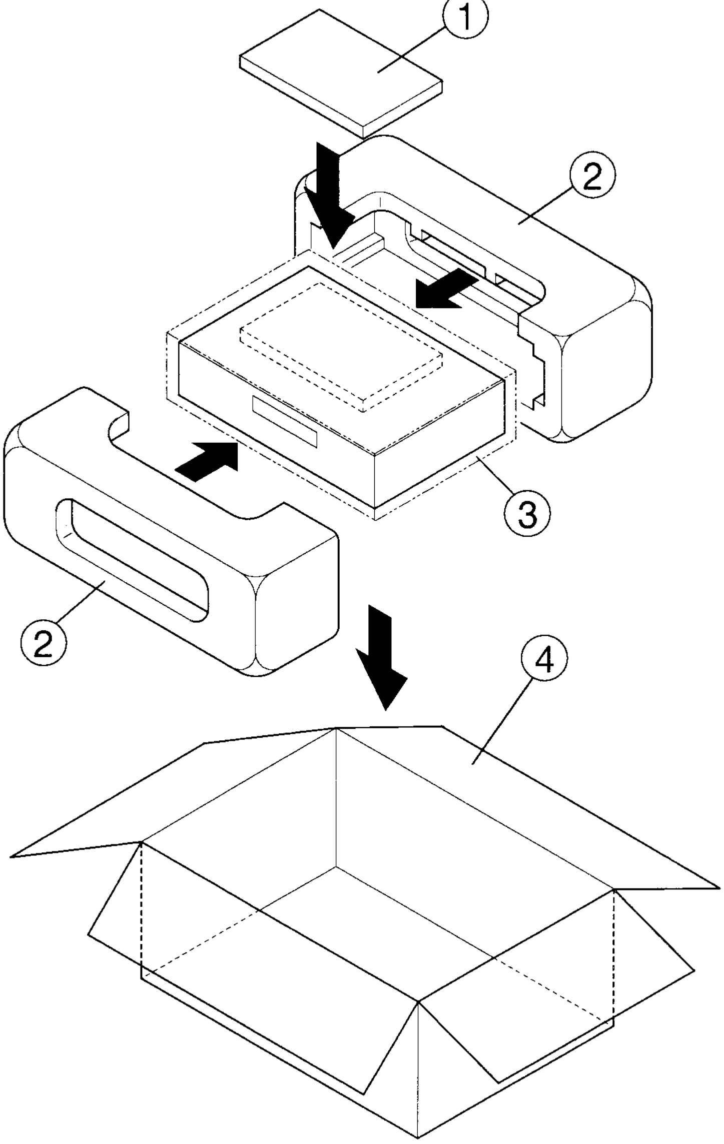
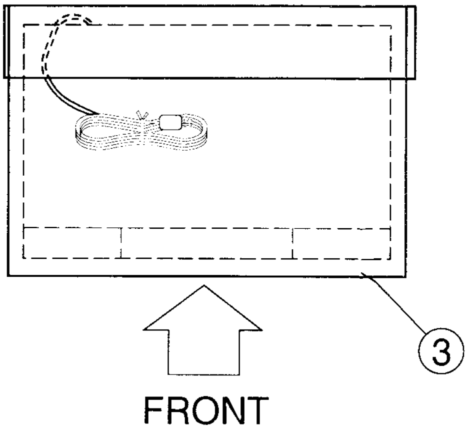
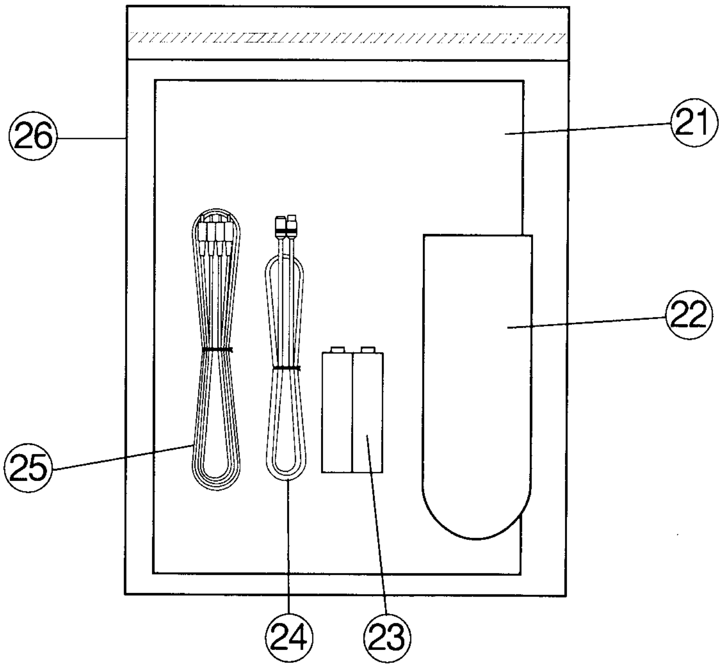
ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
CABINET ASSEMBLY			
1	968C040002	TOP COVER ASSY	
2	669D223080	SCREW	3X10 BLK
3	246C167040	AC POWER CORD	[651VB, 651VIR]
3	246C149080	AC POWER CORD	[651VE, 651VG, 651VY]
4	761B283010	COVER ANTENNA	[651VIR]
4	761B283020	COVER ANTENNA	[651VB]
4	761B283040	COVER ANTENNA	[551VE, 651VY]
4	761B283030	COVER ANTENNA	[651VG]
5	968B039001	FRONT PANEL ASSY	[651VB]
5	968B039002	FRONT PANEL ASSY	[651VE]
5	968B039003	FRONT PANEL ASSY	[651VG]
5	968B039005	FRONT PANEL ASSY	[651VIR]
5	968B039004	FRONT PANEL ASSY	[651VY]
6	702B996010	PANEL TIMER	
7	752C166020	CASSETTE DOOR ASSY	[651VB]
7	752C166040	CASSETTE DOOR ASSY	[651VE]
7	752C166030	CASSETTE DOOR ASSY	[651VG]
7	752C166060	CASSETTE DOOR ASSY	[651VIR]
7	752C166050	CASSETTE DOOR ASSY	[651VY]
8	572D385010	SPRING F/L	
9	590A407010	PANEL BOTTOM	
10	669D220030	SCREW	3X10 46LA005
11	669D221040	SCREW	4X12 46LA005
12	669D222090	SCREW	3X10 46LA005
13	669D359040	SCREW	3X12

2. Packing Parts





ACCESSORY



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
		PACKING PARTS		
1	----------	ACCESSORY		
2	803A436010	PACKING CUSHION		
3	----------	POLYETHYLENE SHEET	1m	
4	802B493030	PACKING CASE		
		ACCESSORY		
21	872C152030	INSTRUCTION BOOK		[B]
21	872C152050	INSTRUCTION BOOK		[E]
21	872C152040	INSTRUCTION BOOK		[G]
21	872C152070	INSTRUCTION BOOK		[IR]
21	872C152060	INSTRUCTION BOOK		[Y]
22	939P596050	REMOTE HAND UNIT		[B]
22	939P595060	REMOTE HAND UNIT		[E, Y]
22	939P596060	REMOTE HAND UNIT		[G]
22	939P595050	REMOTE HAND UNIT		[IR]
23	----------	BATTERY		
24	242D231030	CABLE	1.5m	[B, E, IR, Y]
24	243C200010	CABLE	RF-G	[G]
25	242C938010	CABLE PHONO	2P R&W L=1.5m	[E, G]
26	831D302010	PACKING BAG	(ACCESSORY)	

3. ELECTRICAL PARTS

INTEGRATED CIRCUITS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
IC101	270P184010	IC	M52318SP
IC102	266P192010	IC	LA7910 [E, G, IR, Y]
IC103	272P654010	IC	M51497L [E, G, Y]
IC201	270P183010	IC	BA7184S
IC2A0	270P246010	IC	LA7449M
IC2A1	270P247010	IC	LC89970M
IC2601	270P167020	IC	LA7156-S [E, G, Y]
IC2602	270P067010	IC	BA7645N
IC2603	270P046010	IC	BA7644AN
IC2604	270P046010	IC	BA7644AN
IC2605	270P201010	IC	LA7151 [E, G, Y]
IC2606	270P201010	IC	LA7151 [E, G, Y]
IC301	270P601010	IC	BA7746FS
IC3A0	272P234010	IC	LA7295
IC3000	270P271010	IC	AN3967NFBQ
IC3001	266P419010	IC	M5223P
IC4A0	274P602010	IC	MN67492MSB5
○ IC4A1	272P237030	IC	LA6324N
IC501	274P573010	IC	M35013-050SP
IC551	274P672010	IC	SDA5649 [B, E, G, IR]
IC571	274P677010	IC	M37470M4-526SP [B]
○ IC5A0	274P676090	IC	M38185ME-166FP[B, IR]
○ IC5A0	274P676060	IC	M38185ME-142FP [E]
IC5A0	274P676020	IC	M38185ME-096FP [G, Y]
IC5A1	263P593010	IC	CAT35C104P
IC5A2	272P235010	IC	TA7291S
IC5A4	266P010020	IC	μPC574J-K
IC5A5	270P070010	IC	AT93C56-10PC [B, IR]
IC5A5	263P593010	IC	CAT35C104P [G]
IC700	270P272010	IC	TDA9821 [E, G, Y]
IC701	270P001010	IC	TDA9840 [E, G, Y]
○ IC7A0	270P273020	IC	SAA7283GP [B, E, IR]
IC8D0	274P561010	IC	μPD16311GC-AB6
○ IC9A0	272P237030	IC	LA6324N

TRANSISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 101	260P874010	CHIP TRANSISTOR	2SC3082K-P, Q
Q 102	260P560040	TRANSISTOR	2SA933S-S
Q 103	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 106	260P808010	CHIP TRANSISTOR	DTC114EK [E, G, Y]
Q 107	260P807010	CHIP TRANSISTOR	UN2212 [E, G, Y]
Q 108	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 109	260P804020	CHIP TRANSISTOR	2SC3052-F [E, G, Y]
Q 110	260P804020	CHIP TRANSISTOR	2SC3052-F [E, G, Y]
Q 111	260P874010	CHIP TRANSISTOR	2SC3082K-P, Q [E, IR]
Q 201	260P807010	CHIP TRANSISTOR	UN2212
Q 202	260P807010	CHIP TRANSISTOR	UN2212
Q 205	260P807010	CHIP TRANSISTOR	UN2212
Q 207	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 208	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 260	260P807010	CHIP TRANSISTOR	UN2212
Q 261	260P807010	CHIP TRANSISTOR	UN2212
Q 262	260P807010	CHIP TRANSISTOR	UN2212
Q 2A0	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A1	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 2A2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A3	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A4	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A5	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A7	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A8	260P560040	TRANSISTOR	2SA933S-S
Q 2A9	260P807010	CHIP TRANSISTOR	UN2212
Q 2G0	260P806010	CHIP TRANSISTOR	DTA124EK [E, G, IR, Y]
Q 2G1	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2G2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2G4	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2G5	260P807010	CHIP TRANSISTOR	UN2212 [B]
Q 2G6	260P806010	CHIP TRANSISTOR	DTA124EK [B]
Q 2G7	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2G9	260P807010	CHIP TRANSISTOR	UN2212
Q 2H0	260P807010	CHIP TRANSISTOR	UN2212
Q 2H1	260P806010	CHIP TRANSISTOR	DTA124EK
Q 2R0	260P805030	CHIP TRANSISTOR	2SC3053-D [B, IR]
Q 2R1	260P805030	CHIP TRANSISTOR	2SC3053-D [B, IR]
Q 2601	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2602	260P807010	CHIP TRANSISTOR	UN2212 [E, G, Y]
Q 2603	260P807010	CHIP TRANSISTOR	UN2212 [E, G, Y]
Q 2604	260P804020	CHIP TRANSISTOR	2SC3052-F [E, G, Y]
Q 3A0	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 3A1	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 3A2	260P629060	TRANSISTOR	2SC3331-S
Q 3100	260C676040	TRANSISTOR	2SC3311A-R, S
Q 3101	260C676040	TRANSISTOR	2SC3311A-R, S
Q 3102	260P806010	CHIP TRANSISTOR	DTA124EK
Q 3252	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 3500	260P804020	CHIP TRANSISTOR	2SC3052-F [E, G, IR, Y]
Q 3501	260P804020	CHIP TRANSISTOR	2SC3052-F [E, G, IR, Y]
Q 4A1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 4A2	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 4A3	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 4A4	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 4A5	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 4A6	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 4C8	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 501	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 503	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 504	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 505	260P802020	CHIP TRANSISTOR	2SA1235-F [E, G, Y]
Q 506	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 507	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 571	260P562040	TRANSISTOR	2SA952-K [B]
Q 581	260P562040	TRANSISTOR	2SA952-K [B]
Q 5A1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A2	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A3	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5A6	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A7	260P807010	CHIP TRANSISTOR	UN2212
Q 5A8	260P807010	CHIP TRANSISTOR	UN2212

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 5A9	260P807010	CHIP TRANSISTOR	UN2212
Q 5B0	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5B1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5B2	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 5B3	260P804020	CHIP TRANSISTOR	2SC3052-F [E, Y]
Q 5B4	260P807010	CHIP TRANSISTOR	UN2212
Q 5B6	260P807010	CHIP TRANSISTOR	UN2212
Q 5B7	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5B8	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5C4	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5C5	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5D6	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5E1	268P014030	PHOTO TRANSISTOR	PN205L-(NC).MI2
Q 5E2	268P014030	PHOTO TRANSISTOR	PN205L-(NC).MI2
Q 5E3	268P059010	PHOTO INTERRUPTER	RPI-244
Q 5E4	268P059010	PHOTO INTERRUPTER	RPI-244
Q 5F0	260P560040	TRANSISTOR	2SA933S-S
Q 5F1	260P806010	CHIP TRANSISTOR	DTA124EK
Q 701	260P805030	CHIP TRANSISTOR	2SC3053-D [E, G, Y]
Q 702	260P806010	CHIP TRANSISTOR	DTA124EK [E, G, Y]
Q 703	260P805030	CHIP TRANSISTOR	2SC3053-D [E, G, Y]
Q 704	260P805030	CHIP TRANSISTOR	2SC3053-D [E, G, Y]
Q 7A0	260P805030	CHIP TRANSISTOR	2SC3053-D [B, E, IR]
Q 7A2	260P805030	CHIP TRANSISTOR	2SC3053-D [B, E, IR]
Q 7A3	260P807010	CHIP TRANSISTOR	UN2212 [B, E, IR]
Q 901	260C628010	TRANSISTOR	2SA1619A-Q
Q 902	260P630010	TRANSISTOR	2SD2012
Q 903	260P630010	TRANSISTOR	2SD2012
Q 904	260P640030	TRANSISTOR	2SD1762-F
Q 907	260P560030	TRANSISTOR	2SA933S-R, F
Q 908	260P560040	TRANSISTOR	2SA933S-S
Q 910	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 911	260P438010	TRANSISTOR	2SD1273-Q
Q 913	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 9A1	260P438020	TRANSISTOR	2SD1273-P
Q 9A5	260P613010	TRANSISTOR	2SC4208A
Q 9B2	260P630010	TRANSISTOR	2SD2012 [E, G, Y]

DIODES

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 5B1	264P585010	LIGHT EMITTING DIODE	LN59L.MI
D 8F0	264P621010	LIGHT EMITTING DIODE	SEL2210R TP2
D 8P0	264P634010	LIGHT EMITTING DIODE	SLR-932A-7 [B]

FILTERS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
CF101	296P014030	CERAMIC FILTER	SFE-6.0MHz [B, IR]
CF101	296P014090	CERAMIC FILTER	SFE-5.5MC2 [E, G, Y]
CF102	296P024040	CERAMIC TRAP	TPS6.0MB [B, IR]
CF102	296P104010	CERAMIC TRAP	EFC-S3F01W3A[E, G, Y]
CF103	299P051050	CERAMIC RESONATOR	CSB500F9 [E, G, Y]
CF104	296P143020	CERAMIC DISCRIMINATOR	CDSH6.0ME65 [B, IR]
CF104	296P143010	CERAMIC DISCRIMINATOR	CDSH5.5ME65 [E, G, Y]
CF701	296P071020	CERAMIC FILTER	[E, G, Y]
CF702	296P071010	CERAMIC FILTER	[E, G, Y]
CF7A0	296P131010	CERAMIC FILTER	-S5R5MW5 [E]
CF7A1	296P132010	CERAMIC FILTER	-S6R0MW5 [B, IR]
SF101	296P141020	SAW FILTER	SAF39.5MVA80Z [B]
SF101	296P141010	SAW FILTER	SAF38.9MVB85Z [E, G, IR, Y]
SF102	296P134020	SAW FILTER	SAF32.9MC70Z [B]
SF102	296P134010	SAW FILTER	SAF33.0MC70Z[E, G, Y]
SF102	296P134040	SAW FILTER	SAF32.9MCA70Z [IR]

DELAY LINES

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 101	264P568010	DIODE	1SS252 [E, G, Y]
D 102	264P568010	DIODE	1SS252 [E, G, Y]
D 2A0	264P807010	DIODE	DAP202K HVN21C
D 2A1	264P568010	DIODE	1SS252
D 2A2	264P568010	DIODE	1SS252
D 2A3	264P568010	DIODE	1SS252 [B, IR]
D 2G0	264P568010	DIODE	1SS252
D 2G2	264P568010	DIODE	1SS252
D 2G3	264P568010	DIODE	1SS252 [B]
D 2G4	264P568010	DIODE	1SS252 [E, G, IR, Y]
D 2G8	264P568010	DIODE	1SS252
D 2601	264P808010	CHIP DIODE	DAN202K [E, G, Y]
D 2602	264P808010	CHIP DIODE	DAN202K [E, G, Y]
D 2605	264P568010	DIODE	1SS252 [E, G, Y]
D 2606	264P568010	DIODE	1SS252
D 2609	264P568010	DIODE	1SS252
D 2610	264P568010	DIODE	1SS252
D 2611	264P568010	DIODE	1SS252
D 2612	264P568010	DIODE	1SS252
D 2613	264P568010	DIODE	1SS252
D 2614	264P826010	CHIP DIODE	DA204K
D 2621	264P568010	DIODE	1SS252 [E, G, Y]
D 2623	264P826010	CHIP DIODE	DA204K
D 2624	264P826010	CHIP DIODE	DA204K
D 2625	264P826010	CHIP DIODE	DA204K
D 2641	264P568010	DIODE	1SS252 [E, G, Y]
D 2645	264P568010	DIODE	1SS252 [E, G, Y]
D 2646	264P568010	DIODE	1SS252 [E, G, Y]
D 3A0	264P568010	DIODE	1SS252
D 3A5	264P568010	DIODE	1SS252
D 3400	264P568010	DIODE	1SS252
D 3401	264P568010	DIODE	1SS252
D 3402	264P568010	DIODE	1SS252
D 3403	264P568010	DIODE	1SS252
D 3406	264P483030	DIODE	RD4.7FB
D 4A0	264P568010	DIODE	1SS252
D 4A1	264P568010	DIODE	1SS252
D 501	264P568010	DIODE	1SS252
D 502	264P568010	DIODE	1SS252
D 5A1	264P342070	DIODE	HZ4C2
D 5A3	264P568010	DIODE	1SS252
D 5A5	264P568010	DIODE	1SS252
D 5A7	264P568010	DIODE	1SS252
D 5A8	264P568010	DIODE	1SS252
D 5B2	264P568010	DIODE	1SS252
D 5B3	264P568010	DIODE	1SS252
D 5B4	264P568010	DIODE	1SS252

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 5B5	264P568010	DIODE	1SS252 [B]
D 7C0	264P675010	DIODE	BB405B [B, E, IR]
D 7C1	264P568010	DIODE	1SS252 [B, E, IR]
D 7C2	264P568010	DIODE	1SS252 [B, E, IR]
D 8A1	264P568010	DIODE	1SS252
D 8A2	264P568010	DIODE	1SS252
D 8A3	264P568010	DIODE	1SS252
D 8A4	264P568010	DIODE	1SS252 [B, E, G, IR]
D 8B0	264P568010	DIODE	1SS252
D 8B1	264P568010	DIODE	1SS252
D 8B2	264P568010	DIODE	1SS252
D 8B3	264P568010	DIODE	1SS252
D 8J0	264P568010	DIODE	1SS252 [B, E, G]
D 8J1	264P568010	DIODE	1SS252 [B]
D 8J2	264P568010	DIODE	1SS252 [B, E, G, IR]
D 8K0	264P568010	DIODE	1SS252 [B, E]
D 8K1	264P568010	DIODE	1SS252 [E]
D 8L1	264P568010	DIODE	1SS252 [E]
D 8M0	264P568010	DIODE	1SS252 [E]
D 8M1	264P568010	DIODE	1SS252 [E]
D 8M3	264P568010	DIODE	1SS252
D 8Z1	264P484080	DIODE	RD6.2FB3
D 901	264P294010	DIODE	EM 1Z
D 902	264P569010	DIODE	G4DL-6140 FORMING
D 903	264P569010	DIODE	G4DL-6140 FORMING
D 904	264P294010	DIODE	EM 1Z
D 905	264P294010	DIODE	EM 1Z
D 906	264P569010	DIODE	G4DL-6140 FORMING
D 907	264P569010	DIODE	G4DL-6140 FORMING
D 908	264P294010	DIODE	EM 1Z
D 909	264P500020	DIODE	EM01Z
D 910	264P500020	DIODE	EM01Z
D 911	264P104040	DIODE	HZ30-2
D 920	264P568010	DIODE	1SS252
D 921	264P568010	DIODE	1SS252
D 922	264P568010	DIODE	1SS252
D 9A1	264P488040	DIODE	RD13FB3
D 9B2	264P484020	DIODE	RD5.6FB1
D 9B3	264P452030	DIODE	HZ5C3
D 9C2	264P568010	DIODE	1SS252
D 9C5	264P487080	DIODE	RD12FB2 [E, G, Y]

COILS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
L 01	325C121030	PEAKING COIL	10 μH-K
L 101	325C122050	PEAKING COIL	100 μH-K
L 102	325C165020	PEAKING COIL	1.2 μH-J [B, G, IR, Y]
L 102	325C165050	PEAKING COIL	2.2 μH-J [E]
L 103	325C170050	PEAKING COIL	2.2 μH-K SHIELD
L 104	325C165040	PEAKING COIL	1.8 μH-J
L 105	325C121040	PEAKING COIL	12 μH-K
L 106	323P196010	VIF COIL	M7-T1SA-4091-5
L 107	325C167020	PEAKING COIL	56 μH-J [B]
L 107	325C167000	PEAKING COIL	39 μH-J [E, G, Y]
L 107	325C167010	PEAKING COIL	47 μH-J [IR]
L 108	323P196020	VIF COIL	M7-T1SA-4092-1

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
L 109	325C166020	PEAKING COIL	8.2 μH-J [B, IR]
L 109	325C166000	PEAKING COIL	5.6 μH-J [E, G, Y]
L 112	325C165020	PEAKING COIL	1.2 μH-J [E, IR]
L 113	325C167050	PEAKING COIL	100 μH-J [E, IR]
L 201	321C112050	RF COIL	100 μH-K
L 202	325C166070	PEAKING COIL	22 μH-J
L 203	325C167040	PEAKING COIL	82 μH-J
L 204	325C167070	PEAKING COIL	150 μH-J
L 205	325C166050	PEAKING COIL	15 μH-J
L 2A0	325C166090	PEAKING COIL	33 μH-J
L 2A1	325C166060	PEAKING COIL	18 μH-J
L 2A2	325C167080	PEAKING COIL	180 μH-J
L 2A3	325C166060	PEAKING COIL	18 μH-J
L 2A6	325C167050	PEAKING COIL	100 μH-J
L 2G0	321C112050	RF COIL	100 μH-K
L 2G1	321C112050	RF COIL	100 μH-K
L 2G4	325C167050	PEAKING COIL	100 μH-J
L 2G5	325C167070	PEAKING COIL	150 μH-J
L 2G6	325C166090	PEAKING COIL	33 μH-J
L 2G7	325C121090	PEAKING COIL	33 μH-K
L 2T0	325C166070	PEAKING COIL	22 μH-J
L 2T1	325C167050	PEAKING COIL	100 μH-J
L 2301	325C243010	CHIP COIL	330 μH-K [E, G, Y]
L 2302	325C243010	CHIP COIL	330 μH-K [E, G, Y]
L 2303	325C243010	CHIP COIL	330 μH-K
L 2304	325C243010	CHIP COIL	330 μH-K
L 2601	325C167050	PEAKING COIL	100 μH-J [E, G, Y]
L 2602	325C167050	PEAKING COIL	100 μH-J
L 2603	325C112050	PEAKING COIL	100 μH-K [E, G, Y]
L 2604	325C112050	PEAKING COIL	100 μH-K [B, IR]
L 2605	411P011010	BEADS FERRITE	[E, G, Y]
L 301	325C102050	PEAKING COIL	100 μH-K
L 3A0	321C114080	RF COIL	8200 μH-J
L 3A1	321C113070	RF COIL	1000 μH-K
L 4A7	325C167050	PEAKING COIL	100 μH-J
L 4A8	325C121030	PEAKING COIL	10 μH-K
L 501	325C167050	PEAKING COIL	100 μH-J
L 502	325C166050	PEAKING COIL	15 μH-J
L 503	325C167050	PEAKING COIL	100 μH-J
L 504	325C166080	PEAKING COIL	27 μH-J [E, G, Y]
L 551	325C122050	PEAKING COIL	100 μH-K [B, E, G, IR]
L 571	325C167050	PEAKING COIL	100 μH-J [B]
L 702	325C106030	PEAKING COIL	10 μH-J [E, G, Y]
L 703	325C106030	PEAKING COIL	10 μH-J [E, G, Y]
L 708	321C114050	RF COIL	4700 μH-J [E, G, Y]
L 7A0	325C107010	PEAKING COIL	47 μH-J [B, E, IR]
L 7A1	325C106050	PEAKING COIL	15 μH-J [B, IR]
L 7A3	325C106030	PEAKING COIL	10 μH-J [E, G, Y]
L 7C0	325C106060	PEAKING COIL	18 μH-J [B, E, IR]
L 7C1	325C107050	PEAKING COIL	100 μH-J [B, E, IR]
L 7C2	325C107050	PEAKING COIL	100 μH-J [B, E, IR]
L 7C3	325C107050	PEAKING COIL	100 μH-J [B, E, IR]
L 7C4	325C107050	PEAKING COIL	100 μH-J [B, E, IR]
L 8A0	325C122050	PEAKING COIL	100 μH-K
L 901	351P038010	LINE FILTER	ELF-18D290CN

TRANSFORMERS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
T 3A0	409P423030	AUDIO BIAS OSC	409P42301/2
T 901	350P628040	TRANS POWER	PRI

VARIABLE RESISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
VR101	127C381000	VR SEMIFIXED	1/5W B30kΩ-M
VR310	127C481020	VR SEMIFIXED	1/5W B100kΩ+-25%
VR3000	127C391010	VR SEMIFIXED	1/5W B50kΩ-M [E, G, IR, Y]
VR3001	127C391000	VR SEMIFIXED	1/5W B30kΩ-M [E, G, IR, Y]
VR3002	127C390090	VR SEMIFIXED	1/5W B20kΩ-M
VR3003	127C390080	VR SEMIFIXED	1/5W B10kΩ-M
VR5A0	127C381020	VR SEMIFIXED	1/5W B100kΩ-M
VR756	127C380040	VR SEMIFIXED	1/5W B1kΩ-M [E, G, Y]

RESISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 01	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 03	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 04	103P401020	CHIP RESISTOR	1/10W 82Ω-J [B, IR]
R 08	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 11	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 12	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [E, G, IR, Y]
R 16	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 17	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 101	103P403060	CHIP RESISTOR	1/10W 8. 2kΩ-J
R 102	103P402050	CHIP RESISTOR	1/10W 1kΩ-J [B, G, Y]
R 102	103P402080	CHIP RESISTOR	1/10W 1. 8kΩ-J [E, IR]
R 103	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 104	103P401010	CHIP RESISTOR	1/10W 68Ω-J [B, G, Y]
R 104	103P401070	CHIP RESISTOR	1/10W 220Ω-J [E, IR]
R 105	103P401010	CHIP RESISTOR	1/10W 68Ω-J [E, IR]
R 108	103P477010	CHIP RESISTOR	1/10W 82kΩ-F
R 109	103P476010	CHIP RESISTOR	1/10W 33kΩ-F
R 110	103P476060	CHIP METAL	1/10W 51kΩ-F
R 111	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 112	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 113	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 114	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 115	103P471090	CHIP RESISTOR	1/10W 560Ω-F
R 118	103P471050	CHIP RESISTOR	1/10W 390Ω-F [B]
R 118	103P470050	CHIP RESISTOR	1/10W 150Ω-F [E, G, Y]
R 118	103P471030	CHIP RESISTOR	1/10W 330Ω-F [IR]
R 119	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 120	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 128	103P409050	CHIP RESISTOR	0. 1W 0Ω (2125) [E, G, Y]
R 130	103P405090	CHIP RESISTOR	1/10W 680kΩ-J[E, G, Y]
R 131	103P403050	CHIP RESISTOR	1/10W 6. 8kΩ-J[E, G, Y]
R 132	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [E, G, Y]
R 133	103P403040	CHIP RESISTOR	1/10W 5. 6kΩ-J[E, G, Y]
R 134	103P401080	CHIP RESISTOR	1/10W 270Ω-J [E, G, Y]
R 135	103P402010	CHIP RESISTOR	1/10W 470Ω-J [E, G, Y]
R 136	103P405020	CHIP RESISTOR	1/10W 180kΩ-J[E, G, Y]
R 142	103P404070	CHIP RESISTOR	1/10W 68kΩ-J [E, G, Y]
R 143	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [E, G, Y]
R 144	103P402070	CHIP RESISTOR	1/10W 1. 5kΩ-J[E, G, Y]
R 146	103P401030	CHIP RESISTOR	1/10W 100Ω-J [E, G, Y]
R 147	103P403010	CHIP RESISTOR	1/10W 3. 3kΩ-J[E, G, Y]
R 151	103P402050	CHIP RESISTOR	1/10W 1kΩ-J [E, IR]
R 152	103P401010	CHIP RESISTOR	1/10W 68Ω-J [E, IR]
R 153	103P401050	CHIP RESISTOR	1/10W 150Ω-J [E, IR]
R 154	103P400090	CHIP RESISTOR	1/10W 47Ω-J [E, IR]
R 160	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 161	103P402080	CHIP RESISTOR	1/10W 1. 8kΩ-J
R 199	103P406010	CHIP RESISTOR	1/10W 1MΩ-J [E, G, Y]
R 202	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 205	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 206	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 207	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 208	103P409050	CHIP RESISTOR	0. 1W 0Ω (2125)
R 209	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 210	103P402060	CHIP RESISTOR	1/10W 1. 2kΩ-J
R 211	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 212	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 213	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 214	103P402080	CHIP RESISTOR	1/10W 1. 8kΩ-J
R 215	103P473000	CHIP RESISTOR	1/10W 1. 6kΩ-F
R 216	103P472050	CHIP RESISTOR	1/10W 1kΩ-F
R 217	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 218	103P476000	CHIP RESISTOR	1/10W 30kΩ-F
R 220	103P474080	CHIP RESISTOR	1/10W 9. 1K
R 221	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 223	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 224	103P402080	CHIP RESISTOR	1/10W 1. 8kΩ-J
R 225	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 260	103P473030	CHIP RESISTOR	1/10W 2. 2kΩ-F
R 261	103P473070	CHIP RESISTOR	1/10W 3. 3kΩ-F
R 262	103P473030	CHIP RESISTOR	1/10W 2. 2kΩ-F
R 263	103P473030	CHIP RESISTOR	1/10W 2. 2kΩ-F
R 264	103P477050	CHIP RESISTOR	1/10W 120kΩ-F
R 265	103P475070	CHIP RESISTOR	1/10W 22kΩ-F
R 266	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 267	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 268	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 269	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 270	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 271	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 2A0	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 2A1	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 2A2	103P473040	CHIP RESISTOR	1/10W 2. 4kΩ-F
R 2A3	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2A4	103P403010	CHIP RESISTOR	1/10W 3. 3kΩ-J
R 2A6	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 2A8	103P471020	CHIP RESISTOR	1/10W 300Ω-F [B, IR]
R 2A8	103P401090	CHIP RESISTOR	1/10W 330Ω-J [E, G, Y]
R 2A9	103P402000	CHIP RESISTOR	1/10W 390Ω-J [B, IR]
R 2A9	103P401070	CHIP RESISTOR	1/10W 220Ω-J [E, G, Y]
R 2B3	103P402030	CHIP RESISTOR	1/10W 680Ω-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2B4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2B5	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2B6	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2B7	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2B8	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2B9	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2C0	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 2C1	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2C2	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 2C3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2C4	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2C6	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2C7	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 2C8	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 2D1	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2G1	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2G2	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 2G3	103P473040	CHIP RESISTOR	1/10W 2.4kΩ-F
R 2G4	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 2G6	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2G8	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2G9	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 2H0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2H1	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2H3	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2H4	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 2H5	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 2H6	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2H7	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2J0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2J1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2J2	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2J3	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2J4	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2K3	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [B]
R 2L0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2L1	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 2L2	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2M2	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 2P1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2R1	103P403090	CHIP RESISTOR	1/10W 15kΩ-J [B, IR]
R 2X0	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2X1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2X2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2X3	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2301	103P402010	CHIP RESISTOR	1/10W 470Ω-J [E, G, Y]
R 2304	103P402010	CHIP RESISTOR	1/10W 470Ω-J [E, G, Y]
R 2307	103P402050	CHIP RESISTOR	1/10W 1kΩ-J [B, IR]
R 2307	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J [E, G, Y]
R 2308	103P402050	CHIP RESISTOR	1/10W 1kΩ-J [B, IR]
R 2308	103P402040	CHIP RESISTOR	1/10W 820Ω-J [E, G, Y]
R 2309	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2312	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2315	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2316	103P402050	CHIP RESISTOR	1/10W 1kΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2605	103P409050	CHIP RESISTOR	0.1W 0Ω (2125) [B, IR]
R 2607	103P403090	CHIP RESISTOR	1/10W 15kΩ-J [E, G, Y]
R 2608	103P403090	CHIP RESISTOR	1/10W 15kΩ-J [E, G, Y]
R 2609	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J [E, G, Y]
R 2612	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2613	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2617	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2618	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J [E, G, Y]
R 2619	103P404080	CHIP RESISTOR	1/10W 82kΩ-J [E, G, Y]
R 2620	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [E, G, Y]
R 2621	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [E, G, Y]
R 2622	103P404050	CHIP RESISTOR	1/10W 47kΩ-J [E, G, Y]
R 2624	103P409050	CHIP RESISTOR	0.1W 0Ω (2125) [B, IR]
R 2624	103P401070	CHIP RESISTOR	1/10W 220Ω-J [E, G, Y]
R 2632	103P409050	CHIP RESISTOR	0.1W 0Ω (2125) [B, IR]
R 2634	103P403090	CHIP RESISTOR	1/10W 15kΩ-J [E, G, Y]
R 2635	103P409050	CHIP RESISTOR	0.1W 0Ω (2125) [B, IR]
R 2636	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J [E, G, Y]
R 2637	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 2638	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [E, G, Y]
R 2640	103P409050	CHIP RESISTOR	0.1W 0Ω (2125) [B, IR]
R 301	103P408040	CHIP RESISTOR	1/10W 2.2Ω-K
R 302	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 307	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 308	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 309	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 310	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 311	103P400020	CHIP METAL	1/10W 12Ω-J
R 312	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 3A0	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 3A1	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 3A2	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 3A4	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3A5	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3A6	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 3A7	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 3A8	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 3A9	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 3B0	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 3B1	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 3B2	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 3B3	103P473020	CHIP RESISTOR	1/10W 2kΩ-F
R 3B4	103P401050	CHIP RESISTOR	1/10W 150Ω-J
R 3B6	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 3B7	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 3B8	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 3B9	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 3C0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3C1	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3C4	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3C5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3C6	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 3C7	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 3D3	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3D4	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3000	103P471080	CHIP RESISTOR	1/10W 510Ω-F
R 3001	103P471080	CHIP RESISTOR	1/10W 510Ω-F
R 3002	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3003	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3004	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 3005	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 3006	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 3007	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 3008	103P405060	CHIP RESISTOR	1/10W 390kΩ-J
R 3009	103P479000	CHIP METAL	1/10W 510kΩ-F
R 3010	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 3011	103P475020	CHIP RESISTOR	1/10W 13kΩ-F
R 3102	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3103	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3106	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [B, IR]
R 3106	103P403080	CHIP RESISTOR	1/10W 12kΩ-J [E, G, Y]
R 3107	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [B, IR]
R 3107	103P403080	CHIP RESISTOR	1/10W 12kΩ-J [E, G, Y]
R 3109	103P404000	CHIP RESISTOR	1/10W 18kΩ-J[B, E, IR]
R 3110	103P404010	CHIP RESISTOR	1/10W 22kΩ-J[B, E, IR]
R 3111	103P404010	CHIP RESISTOR	1/10W 22kΩ-J[B, E, IR]
R 3112	103P404020	CHIP RESISTOR	1/10W 27kΩ-J [E, G, Y]
R 3113	103P404020	CHIP RESISTOR	1/10W 27kΩ-J [E, G, Y]
R 3114	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J[E, G, Y]
R 3115	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J[E, G, Y]
R 3116	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 3117	103P402030	CHIP RESISTOR	1/10W 680Ω-J [B, IR]
R 3117	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J[E, G, Y]
R 3118	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 3119	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 3120	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3121	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3200	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 3201	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3203	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [B, IR]
R 3203	103P403080	CHIP RESISTOR	1/10W 12kΩ-J [E, G, Y]
R 3258	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 3259	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 3405	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 3406	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 3407	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 3408	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 3409	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 3410	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3411	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3412	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 3413	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 3421	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 3501	103P475020	CHIP RESISTOR	1/10W 13kΩ-F
R 3504	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3505	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 3506	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 3900	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
R 4A0	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 4A1	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 4A2	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 4A3	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4A4	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4A5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4A6	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4A7	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 4A9	103P405000	CHIP RESISTOR	1/10W 120kΩ-J
R 4B0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 4B1	103P405000	CHIP RESISTOR	1/10W 120kΩ-J
R 4B2	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 4B3	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 4B4	103P405040	CHIP RESISTOR	1/10W 270kΩ-J
R 4B5	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 4B6	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 4B7	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 4B8	103P405050	CHIP RESISTOR	1/10W 330kΩ-J
R 4B9	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 4C0	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 4C1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 4C2	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 4C3	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 4C4	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 4C5	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 4C6	103P405010	CHIP RESISTOR	1/10W 150kΩ-J
R 4C7	103P405010	CHIP RESISTOR	1/10W 150kΩ-J
R 4C8	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 4C9	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4D0	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 4D1	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 4D2	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 4D3	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 4D4	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 4D5	103P405050	CHIP RESISTOR	1/10W 330kΩ-J
R 4D6	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 4D7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 4D8	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4D9	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4E0	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 4E1	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 4S5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4S6	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4S7	103P409090	CHIP RESISTOR	1/10W 75Ω-J
R 4S9	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 501	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
R 502	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 503	103P403080	CHIP RESISTOR	1/10W 12kΩ-J [E, G, Y]
R 504	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 505	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 506	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 507	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 508	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 509	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 510	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [B, IR]
R 510	103P402000	CHIP RESISTOR	1/10W 390Ω-J [E, G, Y]
R 511	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 512	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 514	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 515	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 516	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 518	103P474030	CHIP RESISTOR	1/10W 5.6kΩ-F
R 519	103P473090	CHIP RESISTOR	1/10W 3.9kΩ-F
R 520	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 521	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 522	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 551	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J [B, E, G, IR]
R 552	103P406010	CHIP RESISTOR	1/10W 1MΩ-J[B, E, G, IR]
R 553	103P404090	CHIP RESISTOR	1/10W 100kΩ-J [B, E, G, IR]
R 554	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J [B, E, G, IR]
R 555	103P406020	CHIP METAL	1/10W 1.2MΩ-J [B, E, G, IR]
R 556	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J [B, E, G, IR]
R 557	103P406020	CHIP METAL	1/10W 1.2MΩ-J [B, E, G, IR]
R 5A0	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5A1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5A2	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5A3	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5A6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5A8	103P475010	CHIP RESISTOR	1/10W 12kΩ-F
R 5B1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5B4	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 5B5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5B7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5B9	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 5C0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5C1	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5C2	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 5C3	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J [B]
R 5C3	103P402010	CHIP RESISTOR	1/10W 470Ω-J [E, G, IR, Y]
R 5C4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5C5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 5C6	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5C8	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 5C9	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 5D6	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 5D7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5E0	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 5E1	103P478020	CHIP RESISTOR	1/10W 240kΩ-F
R 5E2	103P477050	CHIP RESISTOR	1/10W 120kΩ-F
R 5E3	103P476080	CHIP RESISTOR	1/10W 62kΩ-F
R 5E4	103P476000	CHIP RESISTOR	1/10W 30kΩ-F
R 5E5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5E6	103P475030	CHIP RESISTOR	1/10W 15kΩ-F
R 5E7	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 5E8	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 5E9	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 5F0	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 5F1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5F2	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5F3	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 5F4	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 5F5	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5F6	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5F7	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 5F8	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5G2	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 5G3	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 5G4	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5G5	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5G6	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5G7	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 5G8	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 5G9	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5H0	103P406090	CHIP METAL	1/10W 4.7MΩ-K
R 5H1	103P406090	CHIP METAL	1/10W 4.7MΩ-K
R 5H3	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5H4	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 5H6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5H7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5J0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [E, G, Y]
R 5J1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [E, G, Y]
R 5J2	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J [E, G, Y]
R 5J3	103P404050	CHIP RESISTOR	1/10W 47kΩ-J [E, Y]
R 5J4	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J [E, Y]
R 5K0	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
R 5K4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5K5	103P404030	CHIP RESISTOR	1/10W 33kΩ-J [B, G, IR]
R 5K7	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 5L1	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 5L2	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5L5	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5M0	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5M1	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 701	103P472000	CHIP RESISTOR	1/10W 620Ω-F [E, G, Y]
R 702	103P472000	CHIP RESISTOR	1/10W 620Ω-F [E, G, Y]
R 703	103P401030	CHIP RESISTOR	1/10W 100Ω-J [E, G, Y]
R 704	103P404020	CHIP RESISTOR	1/10W 27kΩ-J [E, G, Y]
R 718	103P404020	CHIP RESISTOR	1/10W 27kΩ-J [E, G, Y]
R 719	103P403090	CHIP RESISTOR	1/10W 15kΩ-J [E, G, Y]
R 720	103P401070	CHIP RESISTOR	1/10W 220Ω-J [E, G, Y]
R 723	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J [E, G, Y]
R 724	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J [E, G, Y]
R 725	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J [E, G, Y]
R 7A1	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [B, IR]
R 7A1	103P403090	CHIP RESISTOR	1/10W 15kΩ-J [E]
R 7A2	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J[B, E, IR]
R 7A3	103P402000	CHIP RESISTOR	1/10W 390Ω-J [B, E, IR]
R 7A4	103P401050	CHIP RESISTOR	1/10W 150Ω-J [B, IR]
R 7A4	103P402000	CHIP RESISTOR	1/10W 390Ω-J [E]
R 7A5	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [E]
R 7A9	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J[B, E, IR]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 7C0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [B, E, IR]
R 7C1	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [B, E, IR]
R 7C2	103P406010	CHIP RESISTOR	1/10W 1MΩ-J [B, E, IR]
R 7C5	103P406010	CHIP RESISTOR	1/10W 1MΩ-J [B, E, IR]
R 7C6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [B, E, IR]
R 7C7	103P406010	CHIP RESISTOR	1/10W 1MΩ-J [B, E, IR]
R 7C8	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [B, E, IR]
R 7C9	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J[B, E, IR]
R 7D0	103P404030	CHIP RESISTOR	1/10W 33kΩ-J [B, E, IR]
R 7D1	103P401030	CHIP RESISTOR	1/10W 100Ω-J [B, E, IR]
R 7D2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J [B, E, IR]
R 7G2	103P401060	CHIP RESISTOR	1/10W 180Ω-J [B, E, IR]
R 7G5	103P401060	CHIP RESISTOR	1/10W 180Ω-J [B, E, IR]
R 7G6	103P400090	CHIP RESISTOR	1/10W 47Ω-J [B, E, IR]
R 901	109D036040	COMPOSITION	1/2W 8.2MΩ-K
R 903	109P052010	FUSE	1/4W 100Ω-J
R 911	103P370040	FUSE	1/4W 18Ω-J
○ R 917	103P378050	FUSE	1/4W 2.7Ω-J [B]
R 920	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 921	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 922	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 923	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 924	103P398010	FUSE	1/2W 1.2Ω-J
R 9A4	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 9B0	103P475030	CHIP RESISTOR	1/10W 15kΩ-F
R 9C4	103P398020	FUSE	1/2W 1.5Ω-J
R 9C5	103P378080	FUSE	1/4W 4.7Ω-J [E, G, Y]
RJ101	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [B, IR]
RJ102	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ104	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ105	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ106	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ107	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [B, G, Y]
RJ202	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [B, IR]
RJ203	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ204	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ205	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ206	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ207	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ208	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ209	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ211	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ213	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)[B, E, IR]
RJ214	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ215	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2601	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2602	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [E, G, Y]
RJ2603	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2604	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2605	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2606	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2607	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2608	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2611	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2613	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [E, G, Y]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
RJ2614	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2616	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2618	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ2619	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [E, G, Y]
RJ301	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ302	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ303	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ304	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ305	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ306	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ307	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ309	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ310	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ314	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ315	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ316	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ318	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ319	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ320	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ321	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ322	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ323	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A1	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A2	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A3	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A5	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A6	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A7	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A8	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3A9	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3001	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3002	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3003	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3005	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3006	103P409050	CHIP RESISTOR	0.1W 0Ω(2125) [E, G, Y]
RJ3008	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3009	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3010	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ3017	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ401	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ402	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ403	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ404	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ405	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ406	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ407	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ408	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ501	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ502	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ503	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ504	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)
RJ505	103P409050	CHIP RESISTOR	0.1W 0Ω(2125)

CAPACITORS AND TRIMMERS

C 101	141P132010	CHIP CAPACITOR	B50V 0.01μ F-K

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 102	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 103	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K [E, IR]
C 104	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 105	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 106	154P331010	CHIP CAPACITOR	CH50V 10pF-C [B, G, Y]
C 107	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 108	141P135000	CHIP CAPACITOR	F25V 0.22 μF-Z
C 109	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 112	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 114	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 117	154P331050	CHIP CAPACITOR	CH50V 15pF-J
C 118	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 119	154P321060	CHIP CAPACITOR	SL50V 15pF-J [B, IR]
C 119	154P321080	CHIP CAPACITOR	SL50V 18pF-J [E, G, Y]
C 122	141P133080	CHIP CAPACITOR	F50V 0.01 μF-Z [E, G, Y]
C 124	141P134010	CHIP CAPACITOR	F50V 0.047 μF-Z[E, G, Y]
C 126	141P131020	CHIP CAPACITOR	B50V 1800pF-K [E, G, Y]
C 127	154P325080	CHIP CAPACITOR	SL50V 820pF-J [E, G, Y]
C 131	141P130060	CHIP CAPACITOR	B50V 560pF-K
C 132	141P137080	CHIP CAPACITOR	B25V 0.047 μF-K
C 151	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K [E, IR]
C 152	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K [E, IR]
C 153	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K [E, IR]
C 199	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 201	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K
C 202	141P136030	CHIP CAPACITOR	F16V 1 μF-Z
C 203	141P136030	CHIP CAPACITOR	F16V 1 μF-Z
C 204	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 205	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 206	141P136030	CHIP CAPACITOR	F16V 1 μF-Z
C 207	141P136030	CHIP CAPACITOR	F16V 1 μF-Z
C 208	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 209	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 210	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K
C 212	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 213	154P333010	CHIP CAPACITOR	CH50V 68pF-J
C 214	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K
C 215	154P322040	CHIP CAPACITOR	SL50V 33pF-J
C 216	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 217	154P323040	CHIP CAPACITOR	SL50V 82pF-J
C 218	154P324020	CHIP CAPACITOR	SL50V 180pF-J
C 219	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 220	141P137080	CHIP CAPACITOR	B25V 0.047 μF-K
C 221	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 222	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 224	154P323040	CHIP CAPACITOR	SL50V 82pF-J
C 260	141P130050	CHIP CAPACITOR	B50V 470pF-K
C 261	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 2A3	154P325020	CHIP CAPACITOR	SL50V 470pF-J
C 2A4	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 2A5	154P325000	CHIP CAPACITOR	SL50V 390pF-J
C 2A6	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2A7	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 2A8	154P321080	CHIP CAPACITOR	SL50V 18pF-J [B, IR]
C 2A8	154P322040	CHIP CAPACITOR	SL50V 33pF-J [E, G, Y]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 2B0	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2B1	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2G0	154P325000	CHIP CAPACITOR	SL50V 390pF-J
C 2G1	154P322000	CHIP CAPACITOR	SL50V 22pF-J
C 2G2	141P137040	CHIP CAPACITOR	B25V 0.022 μF-K
C 2G4	141P137040	CHIP CAPACITOR	B25V 0.022 μF-K
C 2G6	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K
C 2H0	141P137040	CHIP CAPACITOR	B25V 0.022 μF-K
C 2H4	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K
C 2H9	141P137080	CHIP CAPACITOR	B25V 0.047 μF-K
C 2J0	154P321060	CHIP CAPACITOR	SL50V 15pF-J
C 2J1	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 2J2	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 2J3	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 2K0	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2K1	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2K4	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2K5	154P324040	CHIP CAPACITOR	SL50V 220pF-J [B, IR]
C 2K5	154P324020	CHIP CAPACITOR	SL50V 180pF-J [E, G, Y]
C 2L0	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2L1	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2L3	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2L6	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2L7	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2L8	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 2L9	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2M3	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2M4	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2T0	154P324080	CHIP CAPACITOR	SL50V 330pF-J
C 2T1	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 2X0	141P130010	CHIP CAPACITOR	B50V 220pF-K
C 2X1	141P130010	CHIP CAPACITOR	B50V 220pF-K
C 2Y0	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2303	141P131090	CHIP CAPACITOR	B50V 6800pF-K [E, G, Y]
C 2306	141P131090	CHIP CAPACITOR	B50V 6800pF-K [E, G, Y]
C 2307	141P130030	CHIP CAPACITOR	B50V 330pF-K [B, IR]
C 2307	141P130040	CHIP CAPACITOR	B50V 390pF-K [E, G, Y]
C 2308	141P130030	CHIP CAPACITOR	B50V 330pF-K [B, IR]
C 2308	141P130050	CHIP CAPACITOR	B50V 470pF-K [E, G, Y]
C 2311	141P131090	CHIP CAPACITOR	B50V 6800pF-K
C 2314	141P131090	CHIP CAPACITOR	B50V 6800pF-K
C 2315	154P324080	CHIP CAPACITOR	SL50V 330pF-J
C 2316	154P324080	CHIP CAPACITOR	SL50V 330pF-J
C 2320	141P131020	CHIP CAPACITOR	B50V 1800pF-K
C 2321	141P131020	CHIP CAPACITOR	B50V 1800pF-K
C 2322	141P131020	CHIP CAPACITOR	B50V 1800pF-K [E, G, Y]
C 2323	141P131020	CHIP CAPACITOR	B50V 1800pF-K [E, G, Y]
C 2610	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K [E, G, Y]
C 2615	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K
C 2617	154P324080	CHIP CAPACITOR	SL50V 330pF-J [E, G, Y]
C 2620	154P324080	CHIP CAPACITOR	SL50V 330pF-J [E, G, Y]
C 2642	141P130030	CHIP CAPACITOR	B50V 330pF-K [E, G, Y]
C 2643	141P130030	CHIP CAPACITOR	B50V 330pF-K [E, G, Y]
C 2644	141P133090	CHIP CAPACITOR	F50V 0.022 μF-Z
C 2645	141P133090	CHIP CAPACITOR	F50V 0.022 μF-Z

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 2650	141P130030	CHIP CAPACITOR	B50V 330pF-K
C 2651	141P130030	CHIP CAPACITOR	B50V 330pF-K
C 2652	141P130030	CHIP CAPACITOR	B50V 330pF-K
C 2653	141P130030	CHIP CAPACITOR	B50V 330pF-K
C 301	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 302	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 304	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 305	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 307	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 308	154P324040	CHIP CAPACITOR	SL50V 220pF-J
C 309	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 310	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 311	154P323060	CHIP CAPACITOR	SL50V 100pF-J
C 312	154P323060	CHIP CAPACITOR	SL50V 100pF-J
C 313	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 314	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 315	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 3A0	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 3A1	141P130080	CHIP CAPACITOR	B50V 820pF-K
C 3A9	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 3B9	141P135010	CHIP CAPACITOR	F25V 0.33μF-Z
C 3C0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3C3	141P130060	CHIP CAPACITOR	B50V 560pF-K
C 3010	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3011	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3012	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3013	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3014	141P130020	CHIP CAPACITOR	B50V 270pF-K
C 3252	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3253	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3352	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3354	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3400	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3401	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3415	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 4A2	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 4A3	154P324020	CHIP CAPACITOR	SL50V 180pF-J
C 4A4	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 4B0	141P131080	CHIP CAPACITOR	B50V 5600pF-K
C 4B1	141P131080	CHIP CAPACITOR	B50V 5600pF-K
C 4B3	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 4B5	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 4B6	141P139000	CHIP CAPACITOR	B25V 0.056μF-K
C 4B7	154P332010	CHIP CAPACITOR	CH50V 27pF-J
C 4B8	141P139010	CHIP CAPACITOR	B25V 0.068μF-K
C 4B9	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 4C0	141P131050	CHIP CAPACITOR	B50V 3300pF-K
C 4C4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 4C5	141P133090	CHIP CAPACITOR	F50V 0.022μF-Z
C 4C9	141P131060	CHIP CAPACITOR	B50V 3900pF-K
C 4D0	141P131010	CHIP CAPACITOR	B50V 1500pF-K
C 4D3	141P137070	CHIP CAPACITOR	B25V 0.039μF-K
C 4G7	154P333050	CHIP CAPACITOR	CH50V 100pF-J
C 4G8	154P333050	CHIP CAPACITOR	CH50V 100pF-J
C 4J0	154P331070	CHIP CAPACITOR	CH50V 18pF-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 501	154P330040	CHIP CAPACITOR	CJ50V 3pF-C
C 502	154P330040	CHIP CAPACITOR	CJ50V 3pF-C
C 504	154P331090	CHIP CAPACITOR	CH50V 22pF-J
C 505	154P331090	CHIP CAPACITOR	CH50V 22pF-J
C 507	154P322080	CHIP CAPACITOR	SL50V 47pF-J [E, G, Y]
C 508	141P137080	CHIP CAPACITOR	B25V 0.047μF-K
C 509	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 510	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 511	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 512	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 530	141P131010	CHIP CAPACITOR	B50V 1500pF-K
C 551	154P324000	CHIP CAPACITOR	SL50V 150pF-J [B, E, G, IR]
C 552	141P137060	CHIP CAPACITOR	B50V 0.033μF-K [B, E, G, IR]
C 554	141P131030	CHIP CAPACITOR	B50V 2200pF-K [B, E, G, IR]
C 555	141P137060	CHIP CAPACITOR	B50V 0.033μF-K [B, E, G, IR]
C 556	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [B, E, G, IR]
C 5A1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5A2	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5A5	189P197020	C-ELE-DOUBLE-LAYER	FM0H473Z
C 5A7	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 5A9	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5B5	141P134010	CHIP CAPACITOR	F50V 0.047μF-Z
C 5B7	141P131030	CHIP CAPACITOR	B50V 2200pF-K
C 5C0	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 5C1	154P331070	CHIP CAPACITOR	CH50V 18pF-J
C 5C2	154P331070	CHIP CAPACITOR	CH50V 18pF-J
C 5C3	154P330090	CHIP CAPACITOR	CH50V 8pF-C
C 5C4	141P130060	CHIP CAPACITOR	B50V 560pF-K
C 5C7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5L5	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 701	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [E, G, Y]
C 703	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [E, G, Y]
C 704	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [E, G, Y]
C 705	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [E, G, Y]
C 706	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [E, G, Y]
C 707	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [E, G, Y]
C 709	141P132010	CHIP CAPACITOR	B50V 0.01μF-K [E, G, Y]
C 713	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [E, G, Y]
C 720	154P322080	CHIP CAPACITOR	SL50V 47pF-J [E, G, Y]
C 7A1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7A3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z[B, E, IR]
C 7A4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z[B, E, IR]
C 7A5	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z[B, E, IR]
C 7C0	154P324040	CHIP CAPACITOR	SL50V 220pF-J [B, E, IR]
C 7C1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7C3	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7C5	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7C8	154P322080	CHIP CAPACITOR	SL50V 47pF-J [B, E, IR]
C 7C9	154P322080	CHIP CAPACITOR	SL50V 47pF-J [B, E, IR]
C 7D3	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7D4	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 7D6	154P323020	CHIP CAPACITOR	SL50V 68pF-J [B, E, IR]
C 7D9	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7E0	154P323020	CHIP CAPACITOR	SL50V 68pF-J [B, E, IR]
C 7E2	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [B, E, IR]
C 7E5	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7E6	154P321020	CHIP CAPACITOR	SL50V 10pF-C [B, E, IR]
C 7E8	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [B, E, IR]
C 7F0	141P130040	CHIP CAPACITOR	B50V 390pF-K [B, E, IR]
C 7F1	141P137080	CHIP CAPACITOR	B25V 0.047μF-K [B, E, IR]
C 9A1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 9A9	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 9C2	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z

SWITCHES

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
S 101	431C106010	SLIDE SWITCH	VTR/TV
S 5A0	439P033010	SWITCH	RIS MPU10101MMB0
S 5A1	432P166010	KEY BOARD SWITCH	RESET
S 8A1	432P089040	KEY BOARD SWITCH	PLAY
S 8A2	432P089040	KEY BOARD SWITCH	POWER
S 8A3	432P089040	KEY BOARD SWITCH	FF
S 8B1	432P089040	KEY BOARD SWITCH	STOP
S 8B2	432P089040	KEY BOARD SWITCH	EJECT
S 8B3	432P089040	KEY BOARD SWITCH	REW
S 8C1	432P089040	KEY BOARD SWITCH	REC/OTR
S 8C2	432P089040	KEY BOARD SWITCH	O.K.PROG
S 8C3	432P089040	KEY BOARD SWITCH	CH-DOWN
S 8D2	432P089040	KEY BOARD SWITCH	RENT PB
S 8D3	432P089040	KEY BOARD SWITCH	CH-UP
S 8D4	432P089040	KEY BOARD SWITCH	AUTO SET UP/JUST CLOCK [B, E, G, IR]

MISCELLANEOUS

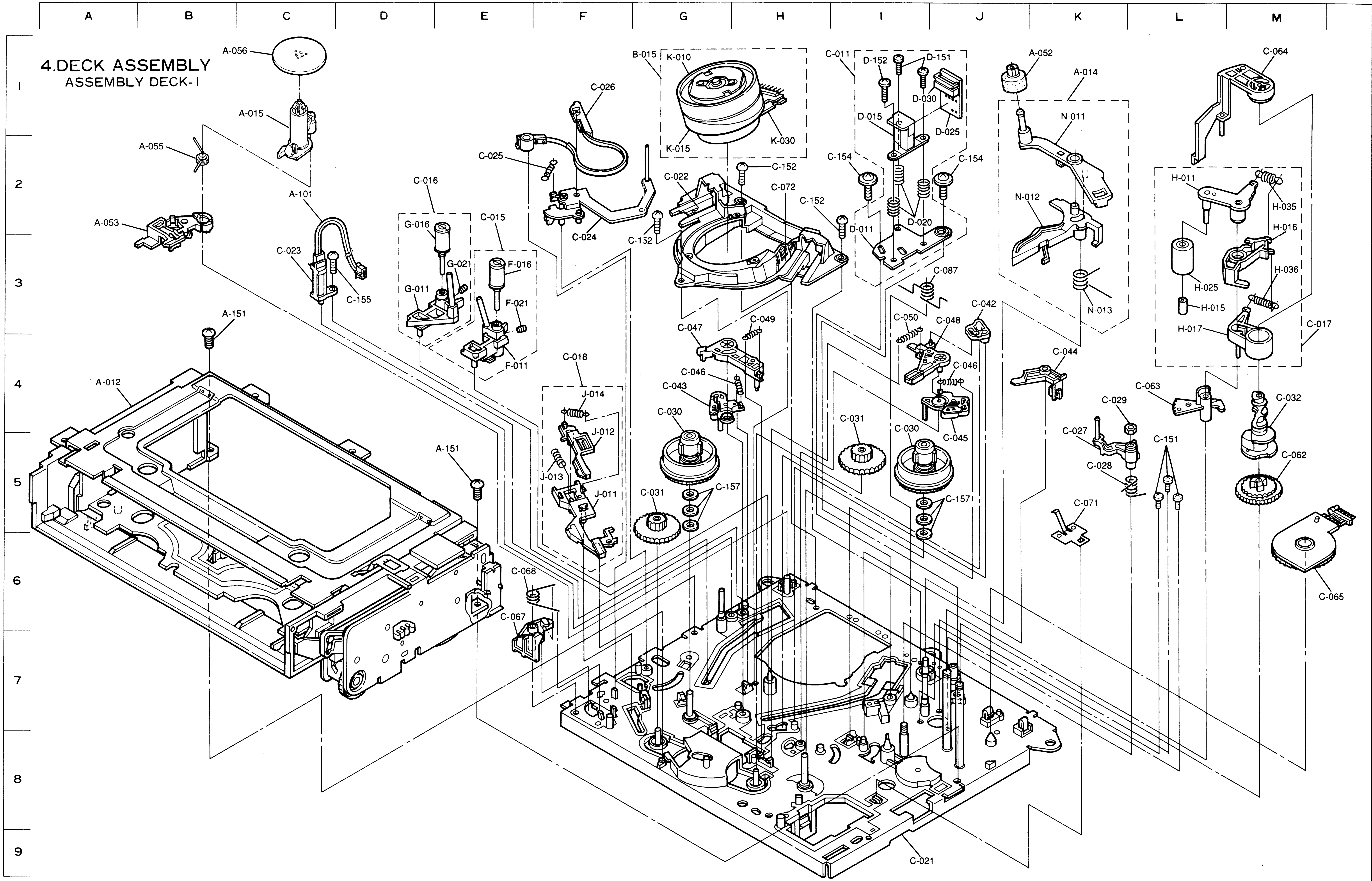
SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○	452C210010	CONNECTOR	21
CU 01	295P276070	RF CONVERTER	[B]
CU 01	295P276050	RF CONVERTER	[E, G, Y]
CU 01	295P276060	RF CONVERTER	[IR]
F 901	283D046080	FUSE	T630MA
F 902	283D047050	FUSE	T2.5A
F 903	283D047050	FUSE	T2.5A
J 2A0	451C096040	PIN JACK	RED
J 2A1	451C096010	PIN JACK	WHITE
J 2001	451C058020	CONNECTOR	21P
J 2002	451C058020	CONNECTOR	21P
J 5A1	451C129020	JACK MICROPHONE	[B]
M 470	288P126010	MOTOR CAPSTAN	F20KB79
M 570	288P088060	MOTOR DRUM	DC12V 3.3W
M 571	288P145010	MOTOR LOADING	MXN13FB12D
MB HB	243C158020	LEAD CARD	15P L=100(MB-HB)
MC HC	243C163020	LEAD CARD	25P L=100(MC-HC)
MK TK	243C161070	LEAD CARD	21P L=200(MK-TK)
P 5A0	286P010010	BUZZER	PKM22EPT-2001
S 570	439D039010	MODE SELECT SWICH	(J)
T 370	460P060060	A/C HEAD	
T 371	460P153010	FULL ERASE HEAD	
TU 01	295P418010	TUNER	TEKE4-071A [E, G, Y]
TU 01	295P194020	TUNER TV	TERB1-044A [B]
TU 01	295P297020	TUNER TV	TERE1-0N3A [IR]
V 8A0	253P115050	TUBE FLUOR	BJ360GK
X 2A0	285P083010	CRYSTAL RESONATOR	4.43362MHz
X 4A0	285P248010	CRYSTAL RESONATOR	4.43MHz
X 501	285P084010	CRYSTAL RESONATOR	17.7345MHz
X 571	285P029040	CRYSTAL RESONATOR	4.00000MHz [B]
X 5A0	285P054030	CRYSTAL RESONATOR	32.8kHz
X 5A1	285P235010	CRYSTAL RESONATOR	8.3886MHz
X 701	285P204020	CRYSTAL RESONATOR	10MHz [E, G, Y]
X 7A0	285P253010	CRYSTAL RESONATOR	8.192MHz [B, E, IR]
Z 8A0	939P580010	PREAMP UNIT	TFMT 5330

PRINTED CIRCUIT BOARD ASSY'S

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
	928D291001	CONNECTOR PCB ASSY	[B, IR]
	928D291002	CONNECTOR PCB ASSY	[E, G, Y]
	928D289001	HA/AUDIO PCB ASSY	
	928D293001	HIFI/NIC/DEC PCB ASSY	[B]
	928D293003	HIFI/NIC/DEC PCB ASSY	[E]
	928D293002	HIFI/NIC/DEC PCB ASSY	[G]
	928D293005	HIFI/NIC/DEC PCB ASSY	[IR]
	928D293004	HIFI/NIC/DEC PCB ASSY	[Y]
○	928D352001	LED PCB ASSY	[B]
	927B895001	MAIN PCB ASSY	[B]
	927B895003	MAIN PCB ASSY	[E]
	927B895002	MAIN PCB ASSY	[G]
	927B895005	MAIN PCB ASSY	[IR]
	927B895004	MAIN PCB ASSY	[Y]
	928D290001	POWER SUB2 PCB ASSY	[B]
	928D290002	POWER SUB2 PCB ASSY	[E, G, Y]
	928D290003	POWER SUB2 PCB ASSY	[IR]
○	928D351001	TIMER PCB ASSY	[B]
○	928D351003	TIMER PCB ASSY	[E]
○	928D351002	TIMER PCB ASSY	[G]
○	928D351005	TIMER PCB ASSY	[IR]
○	928D351004	TIMER PCB ASSY	[Y]
	928D292001	SAT PCB ASSY	[B]

4.DECK ASSEMBLY

ASSEMBLY DECK-I



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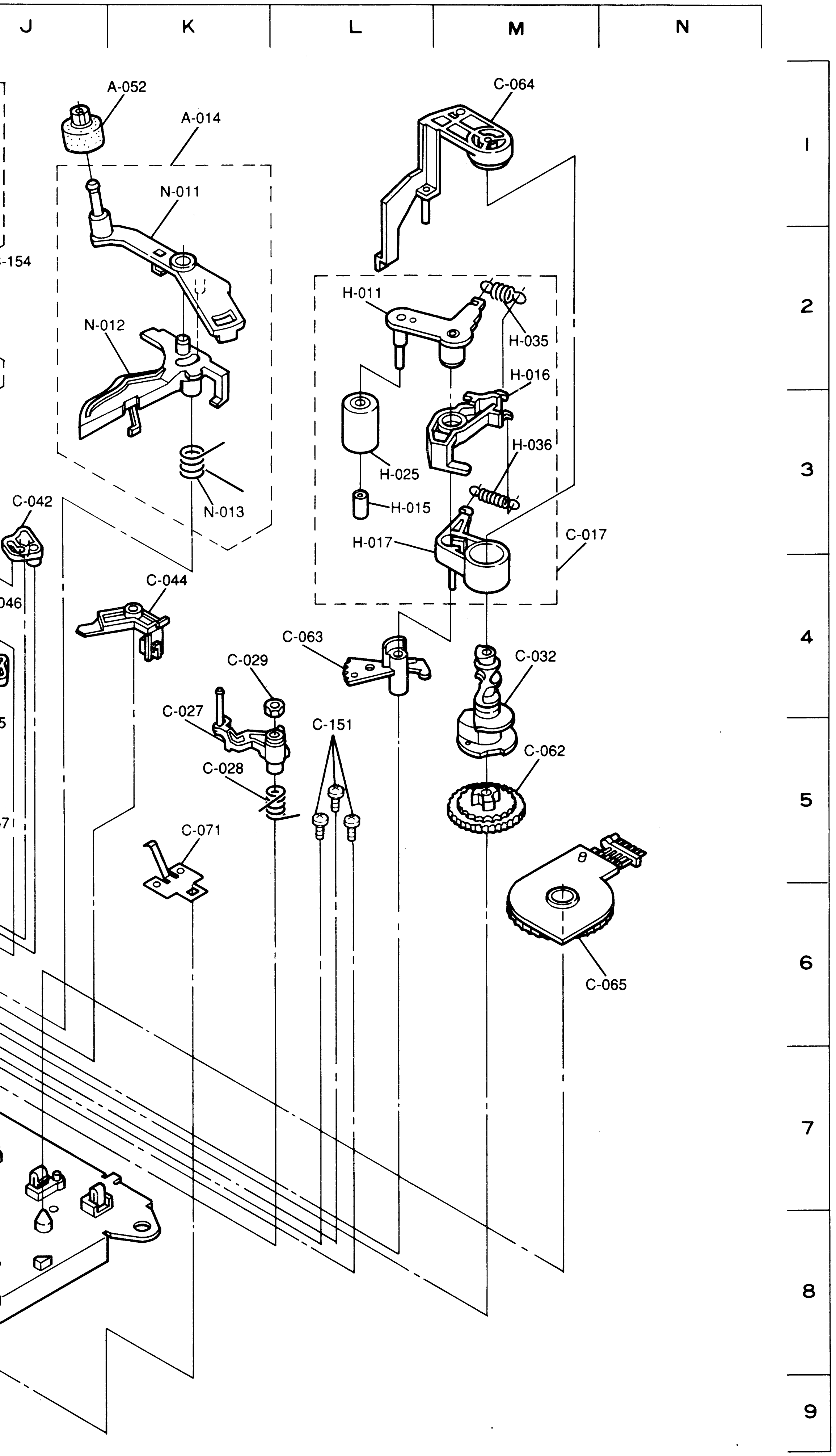


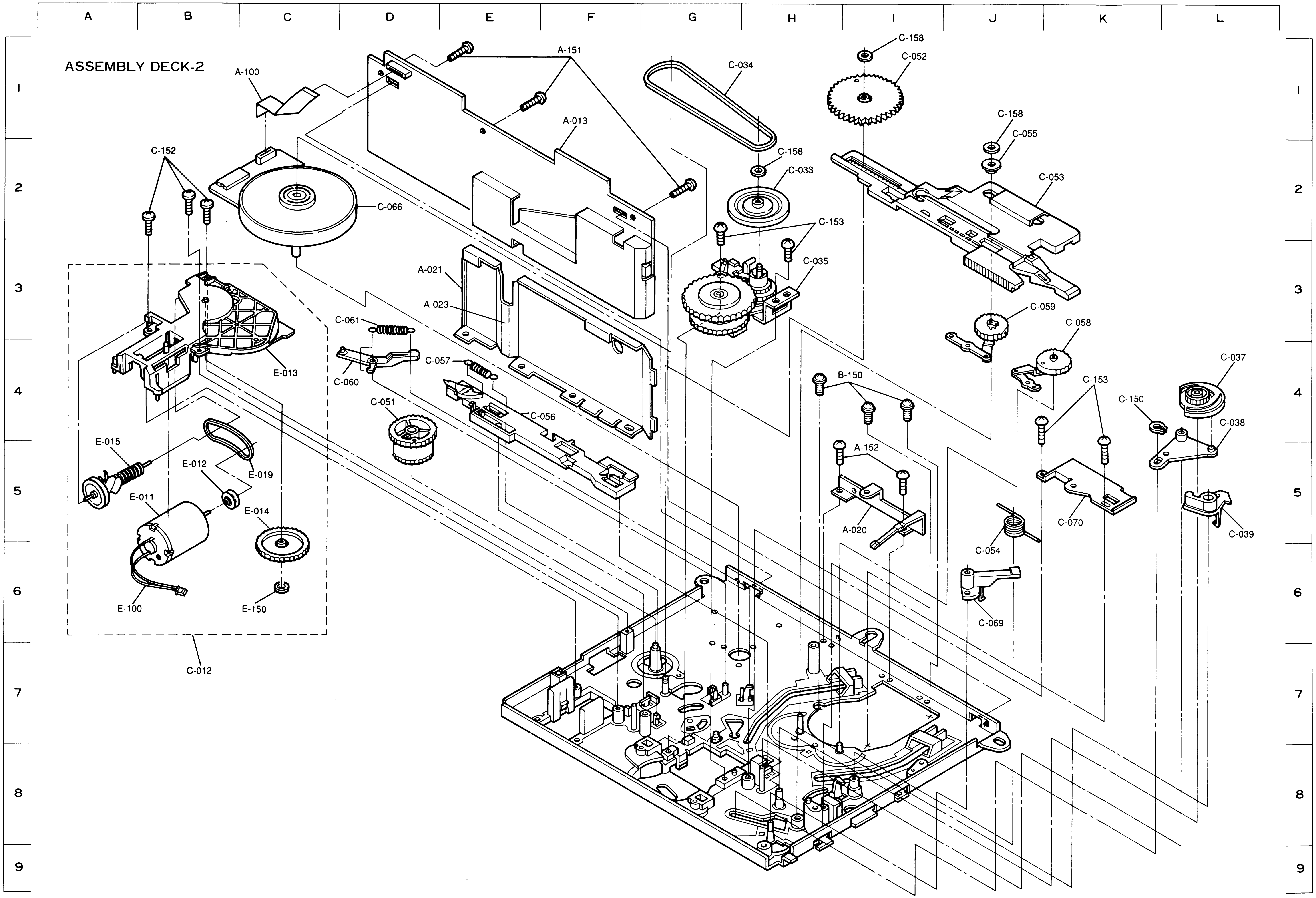
＊Settled Service Parts

ITEM	PARTS No.	＊	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
A-012	948A155006	○	A-4		ASSY-F/L-J		01
A-014	948B349001		K-2		ASSY-CLE		01
N-011	641B680010	○	K-2		ARM-CLE		01
N-012	641B681010	○	K-3		LEVER-CLE		01
N-013	572D703010	○	K-3		SPRING-CLE		01
B-015	948B358002	○	G-2		ASSY-DRUM		01
K-010	928B984013	○	G-1		ASSY-UPPR-DRUM		01
K-015	927B681007		G-2		ASSY-LOWER-DRUM		01
K-030	288P088060	○	H-2		MOTOR-DRUM	M570	01
C-011	928D104002	○	I-1		ASSY-A/C-HEAD		01
D-011	593C399010		I-2		PLATE-A/C		01
D-015	460P060060	○	I-1		HEAD	T370	01
D-020	572D639010		I-2		SPRING-A/C		03
D-025	215C730010		J-1		PWB-A/C-JA		01
D-030	452C140060		J-1		CONNECTOR-PC2M(S)		01
D-151	669D483010		I-1		SCREW	M2. 6X8	02
D-152	669D485010		I-1		SCREW	2. 6X8	01
C-015	948D042001	○	E-3		ASSY-TAPE-GUIDE-T		01
C-015	948D042002	○	E-3		ASSY-TAPE-GUIDE-T		01
C-015	948D042003	○	E-3		ASSY-TAPE-GUIDE-T		01
F-011	635B085010	○	E-4		TAPE-GUIDE-T		01
F-011	635B085020	○	E-4		TAPE-GUIDE-T		01
F-011	635B085030	○	E-4		TAPE-GUIDE-T		01
F-016	522D177020	○	E-3		GUIDE-ROLLER		01
F-021	669D197020		E-4		SET-SCREW-F	D=M3X0. 5 L=4	01
C-016	948D043001	○	D-3		ASSY-TAPE-GUIDE-S		01
C-016	948D043002	○	D-3		ASSY-TAPE-GUIDE-S		01
C-016	948D043003	○	D-3		ASSY-TAPE-GUIDE-S		01
G-011	635B086010	○	D-3		TAPE-GUIDE-S		01
G-011	635B086020	○	D-3		TAPE-GUIDE-S		01
G-011	635B086030	○	D-3		TAPE-GUIDE-S		01
G-016	522D177020	○	D-3		GUIDE-ROLLER		01
G-021	669D197020		E-3		SET-SCREW-F	D=M3X0. 5 L=4	01
C-017	948D044001	○	M-3		ASSY-ARM-PINCH		01
H-011	593C465010		L-2		ARM-PINCH		01
H-015	622D235010	○	L-3		CAP-ROLLER		01
H-016	621C243010		M-3		LEVER-PINCH		01
H-017	621C241010		M-3		SLIDER-PINCH		01
H-025	522D174010	○	L-3		ROLLER-PINCH		01
H-035	572D314010	○	M-2		SPRING-PINCH		01
H-036	572D714010	○	M-3		SPRING-CAM-PINCH		01
C-018	948C315001		F-4		ASSY-CHARGE		01
J-011	641B629010	○	F-6		LEVER-SWING-ID		01
J-012	621C238010	○	F-5		LEVER-REV		01
J-013	572D684010		F-5		SPRING-CHARGE		01
J-014	572D624010	○	F-5		SPRING-REV		01
C-021	948A159001		I-9		ASSY-MAIN-PLATE		01
C-022	635A038030		G-2		DRUM-BASE		01
C-023	460P153010	○	C-3		HEAD-FE	T371	01

＊Settled Service Parts

ITEM	PARTS No.	＊	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
C-024	592B049010	○	F-3		ARM-TENSION		01
C-025	572D627010	○	F-2		SPRING-TENS		01
C-026	641B624020	○	F-2		BELT-TENS-BRAKE		01
C-027	635B084010	○	K-5		ARM-TU-G		01
C-028	572D647010	○	K-5		SPRING-TU-G		01
C-029	674D081020	○	K-5		NUT-NYLON	M3X0. 5	01
C-030	522C092010	○	I-5	G-5	UNIT-REEL-DISK		02
C-031	621C234010	○	I-5	G-6	GEAR-R		02
C-032	641B630020	○	M-4		CAM-PINCH-J		01
C-042	621C315010	○	J-4		LEVER-SUB-OFF		01
C-043	641B635020	○	G-4		BRAKE-MAIN-S		01
C-044	622D219010	○	K-4		LEVER-RELEASE-M/B		01
C-045	641B634020	○	J-4		BRAKE-MAIN-T		01
C-046	572D635010	○	H-4	J-4	SPRING-M/B-J		02
C-047	641B633010	○	G-4		BRAKE-SUB-S		01
C-048	641B632020	○	I-4		BRAKE-SUB-T		01
C-049	572D623010	○	H-4		SPRING-SUB-S		01
C-050	572D625010		I-4		SPRING-SUB-T		01
C-062	621C240010	○	M-5		GEAR-PINCH		01
C-063	635C098010	○	L-4		GEAR-TU-G		01
C-064	641B628010	○	M-1		CAP-CAM-PINCH		01
C-065	439D039010	○	N-6		SW-MODE-J	S570	01
C-067	641B641010	○	E-7		LEVER-RIS		01
C-068	572D646010	○	E-6		SPRING-RIS		01
C-071	597D102010		K-5		PLATE-EB		01
C-072	572D712010	○	H-3		SPRING-DB		01
C-087	572D697010		I-3		SPRING-AC-EARTH		01
C-151	669D285040		L-5		SCREW-TB-PAN	M2. 6X8	03
C-152	669D224020		G-3 I-3	H-2	SCREW-TB	2. 6X8	03
C-154	669D476020	○	I-2	J-2	SCREW-TB-SEMS	2. 6X8	02
C-155	669D224030		D-3		SCREW-TB	2. 6X10	01
C-157	552C017030	○	G-5	J-5	WASHER-THRUST	2. 5X6X0. 13	06
A-015	948C322001		C-1		ASSY-IMP-S		01
A-052	621C033010	○	J-1		UNIT-CLE-ROLLER		01
A-053	641B699010	○	A-2		HOLDER-TG		01
A-055	572D721010		B-2		SPRING-IMP-J		01
A-056	597D168010		B-1		FLYWHEEL-J		01
A-101	248B173040		C-3		LEAD-CONNECTOR-S		01
A-120	641C685010		E-7		CLAMPER-LEAD-F/L		01
A-151	669D224020		B-4	E-5	SCREW-TB	2. 6X8	02

ASSEMBLY DECK-2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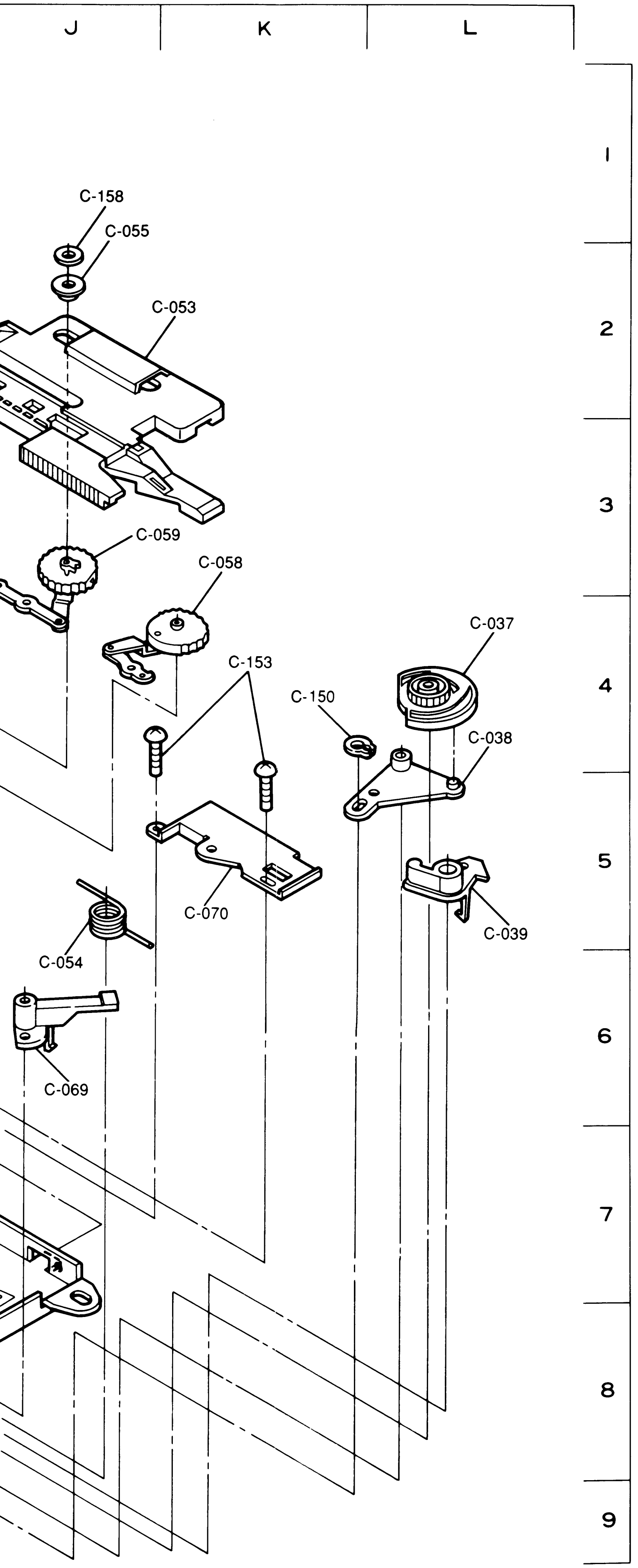
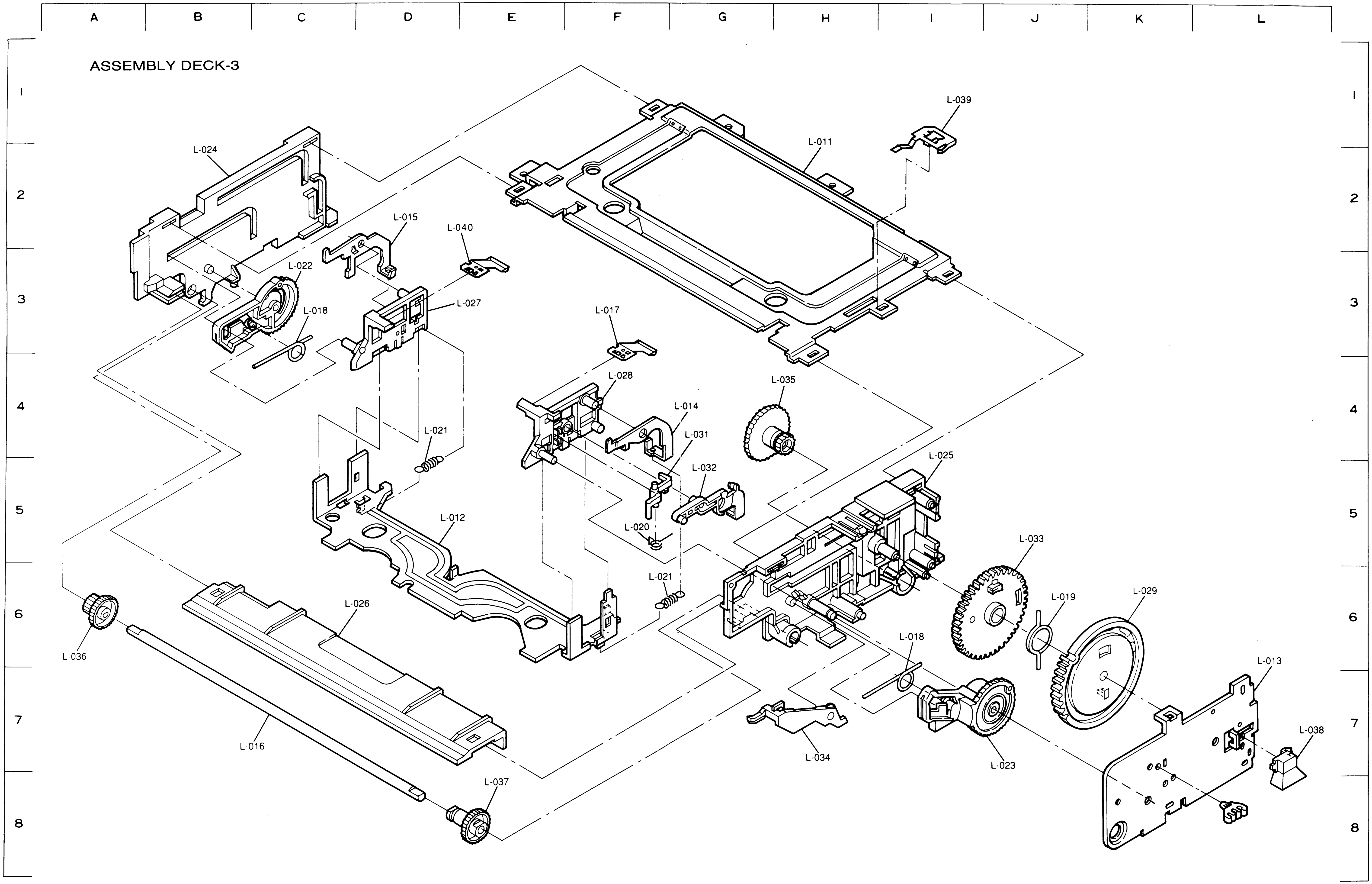
E-012
E-011
E-014
A-152
A-020
C-070
C-039
C-054
E-100
E-150
C-069
C-012



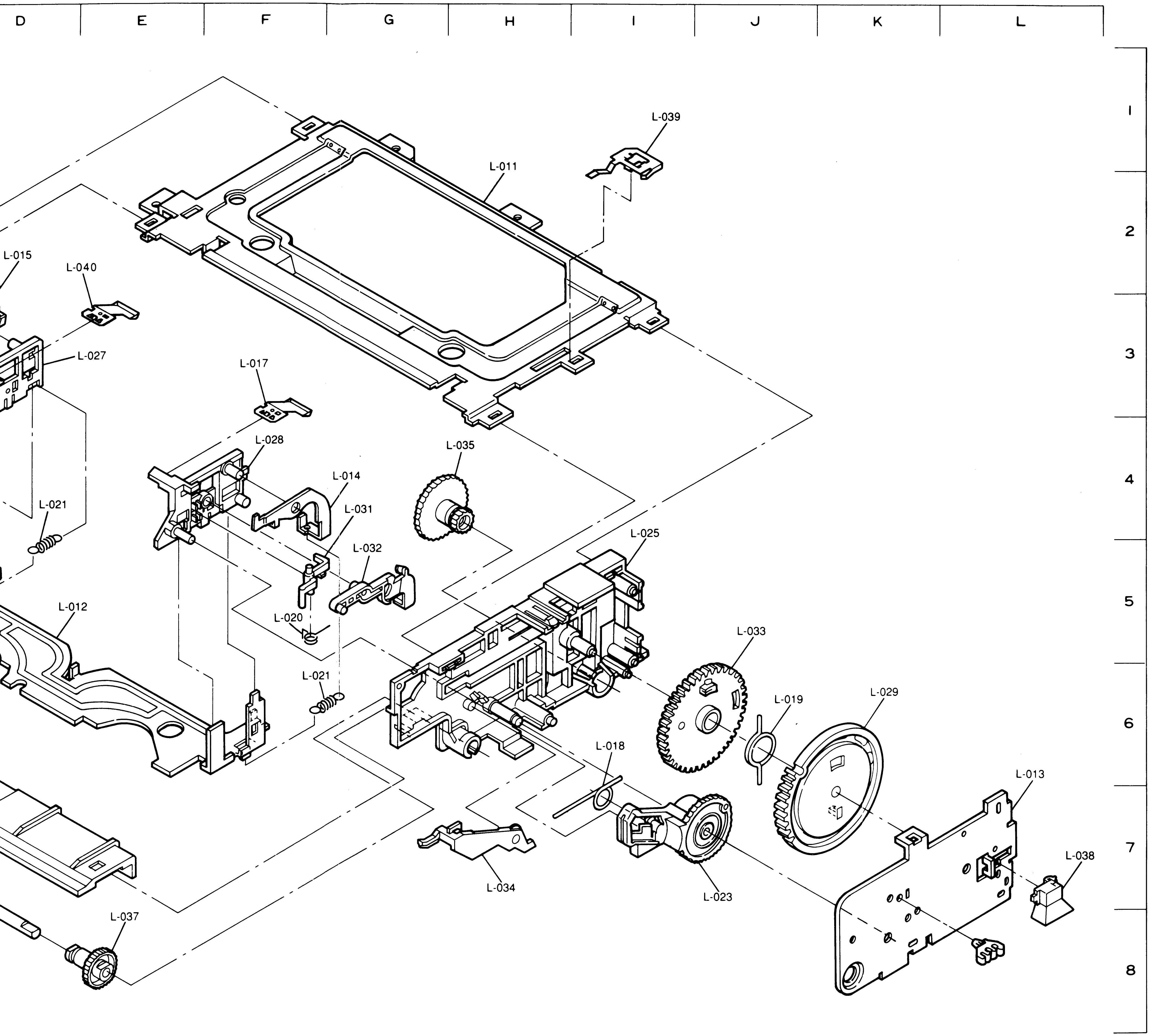
＊Settled Service Parts

ITEM	PARTS No.	＊	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
A-013	928D289001	○	F-2		ASSY-PWB-HA/AUDIO		01
C-012	928D105002	○	B-7		ASSY-L-MOTOR		01
E-011	288P145010	○	B-5		MOTOR-LOADING		01
E-012	622D220020		B-5		PULLEY-MOTOR		01
E-013	641B727010		C-4		HOLDER-MOTOR-J		01
E-014	621C258010	○	C-6		GEAR-A		01
E-015	621C259010	○	A-5		PULLEY-WORM-J		01
E-019	521D088010	○	C-5		BELT-LM2		01
E-100	248B173020		B-6		LEAD-CONNECTOR-S		01
E-150	552C018020	○	C-6		CUT-WASHER	2. 5X4. 7X0. 5	01
A-020	299C030010	○	I-5		BRUSH		01
A-021	292B204010		D-3		SHIELD-PLATE-HAK		01
A-023	223D533010		D-3		BARRIER-HA		01
A-100	243C125010	○	C-1		LEAD-CARD		01
A-151	669D224020		E-1 G-2	E-2	SCREW-TB	2. 6X8	03
A-152	669D224010		I-5		SCREW-TB	2. 6X6	02
B-150	669D200020		I-4		SCREW-SEMS	M2. 6X0. 45-6	03
C-033	621C254010	○	H-2		PULLEY-BELT		01
C-034	521D081010	○	G-1		BELT-REEL-J		01
C-035	522B057030	○	H-3		UNIT-REEL-IDLER		01
C-037	621C235010	○	L-4		CAM-GEAR-R		01
C-038	622D229010	○	L-5		LEVER-CHARGE		01
C-039	622D223010	○	L-5		LEVER-T-OFF		01
C-051	621C257010	○	D-5		GEAR-JOINT-J		01
C-052	641B637020	○	I-1		MAIN-GEAR-J		01
C-053	641A311010	○	J-2		PLATE-CAM-B		01
C-054	572D640010		J-5		SPRING-CAM-B		01
C-055	622D224010	○	J-2		ROLLER-B		01
C-056	641B636010	○	E-4		PLATE-CAM-C		01
C-057	572D636010	○	E-4		SPRING-CAM-C		01
C-058	592B048010	○	K-4		ARM-LOAD-S		01
C-059	592B047010	○	J-4		ARM-LOAD-T		01
C-060	621C261010	○	D-4		BRAKE-CP		01
C-061	572D645010	○	D-3		SPRING-B-CP		01
C-066	288P126010	○	C-2		MOTOR-CP	M470	01
C-069	621C308010	○	J-6		ARM-RIS		01
C-070	593C532010	○	K-5		PLATE-J		01
C-150	685C009010	○	K-4		GRIP-RING		01
C-152	669D224020		B-2		SCREW-TB	2. 6X8	03
C-153	669D224010		K-4 G-3	K-5 H-3	SCREW-TB	2. 6X6	04
C-158	552C018010	○	J-2 H-2	I-1	CUT-WASHER	2. 5X6. 0X0. 5	03

ASSEMBLY DECK-3



A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
7
8
L-024
L-039
L-011
L-015
L-040
L-022
L-027
L-018
L-017
L-028
L-035
L-014
L-021
L-031
L-025
L-032
L-012
L-020
L-033
L-021
L-029
L-019
L-026
L-036
L-018
L-013
L-016
L-034
L-023
L-038
L-037


D
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H
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J
K
L
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L-039
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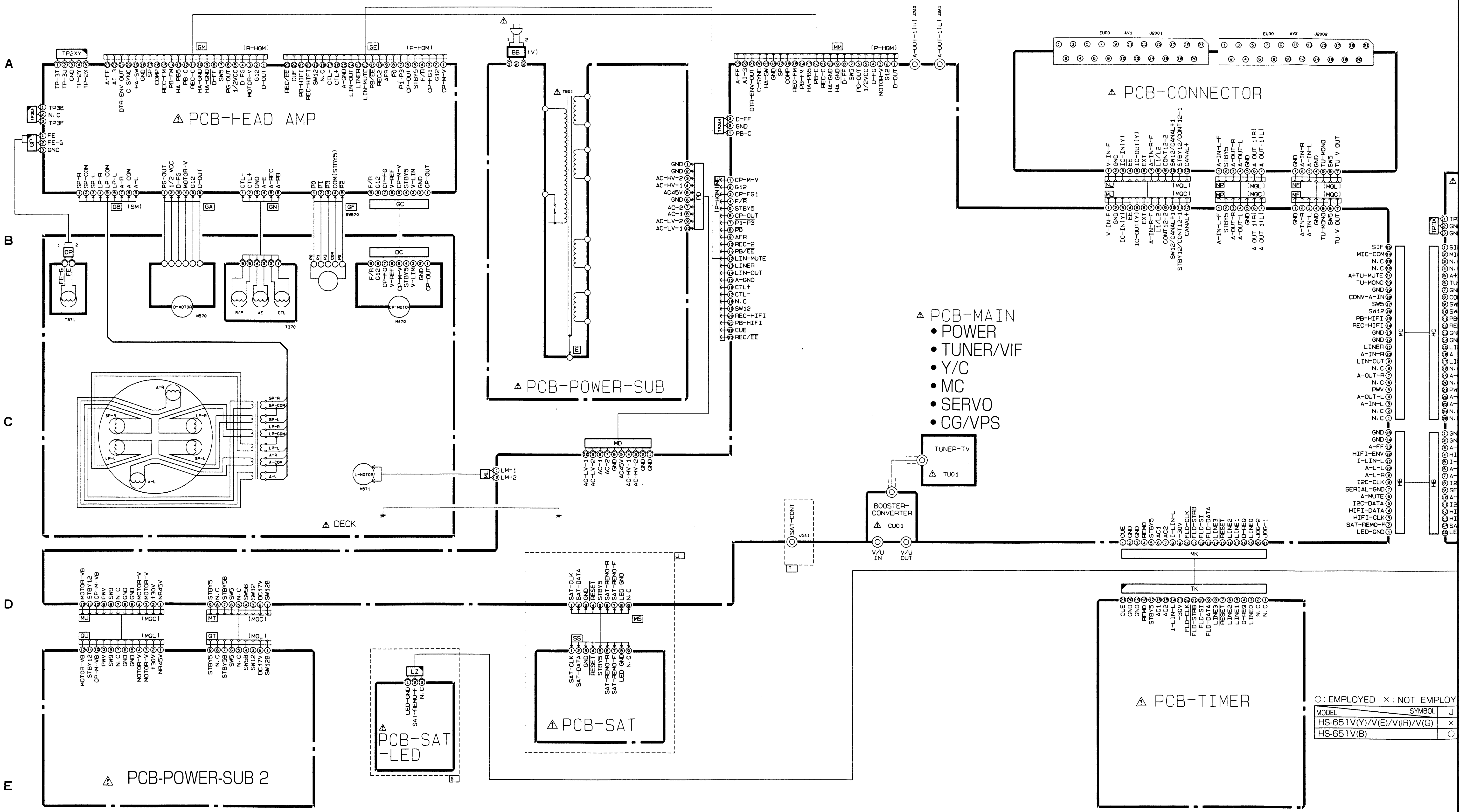
L-017
L-028
L-035
L-014
L-021
L-031
L-032
L-025
L-012
L-020
L-033
L-021
L-019
L-029
L-018
L-013
L-038
L-034
L-023
L-037

* Settled Service Parts

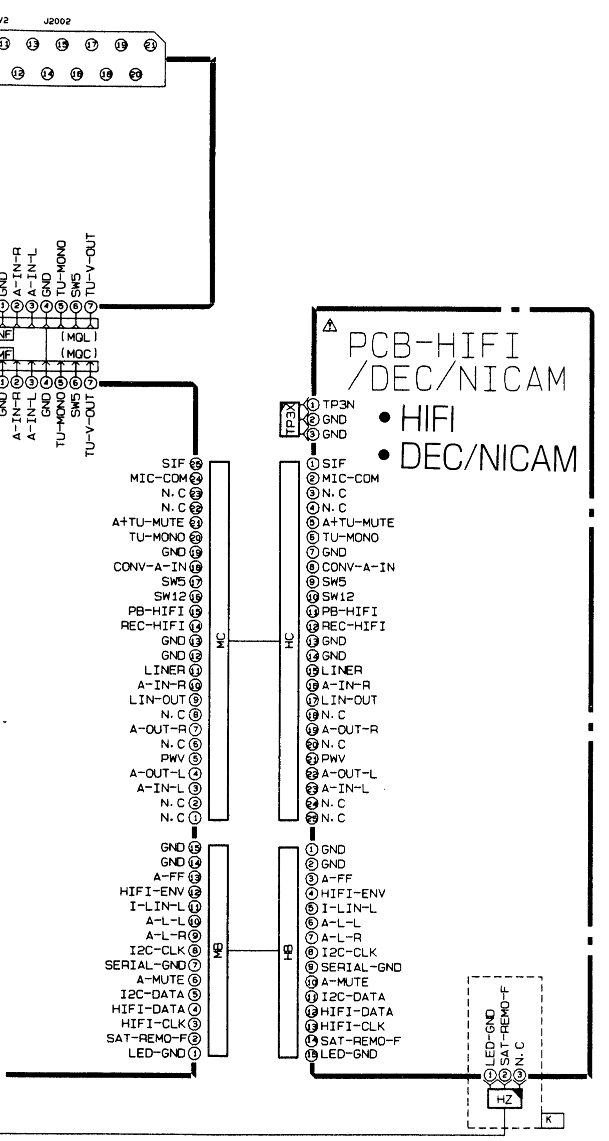
ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
L-011	592B156010		H-1		PLATE-ROOF-J		01
L-012	592B150010		D-5		PLATE-BOTTOM-J		01
L-013	592B157010		L-6		PLATE-SIDE-J		01
L-014	596D986010		G-4		LEVER-LOCK-T		01
L-015	596D987010		D-2		LEVER-LOCK-S		01
L-016	631D443010		C-7		SHAFT-FL		01
L-017	572D634010		F-3		PLATE-SPR		01
L-018	572D631010	○	C-3	I-6	SPRING-ARM		02
L-019	572D632010		J-6		SPRING-CHIP		01
L-020	572D633010		F-5		SPRING-JUT		01
L-021	572D630020		D-4	F-6	SPRING-LOCK-T		02
L-022	621C250010	○	C-3		ARM-SP		01
L-023	641B719010		J-7		ARM-TU		01
L-024	641A360010		B-2		HOLDER-SIDE-SP		01
L-025	641A718010		I-4		HOLDER-SIDE-TU		01
L-026	621C249010		D-6		GUIDE-INSERT		01
L-027	641B626010		E-3		HOLDER-CAS-SP		01
L-028	641B638010		F-4		HOLDER-CAS-TU		01
L-029	641B625010	○	K-6		GEAR-SENS		01
L-031	622D231010	○	G-4		JUT-J		01
L-032	621C245010		G-5		OPENER-LID		01
L-033	622D227010	○	J-5		GEAR-DRIVE		01
L-034	622D230010	○	H-7		ARM-DOOR		01
L-035	621C252010	○	H-4		GEAR-WHEEL		01
L-036	622D225010	○	A-6		GEAR-S		01
L-037	622D226010	○	E-8		GEAR-T		01
L-038	622D228010		L-7		COVER-SENS		01
L-039	597D085010		I-1		PLATE-EARTH		01
L-040	572D634020		E-2		PLATE-SPR		01

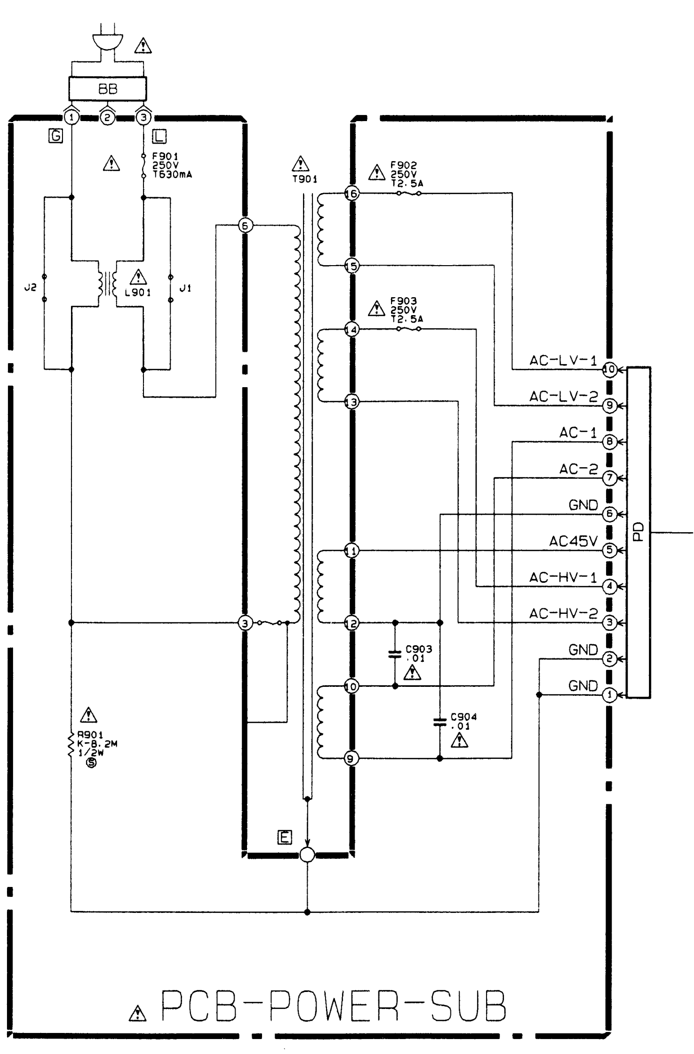
PCB-BLOCK DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
⚠ PCB-HEAD AMP
TP2XY
TP-3T
TP-3U
GND
TP-2Y
TP-2X
TP3E
N.C
TP3F
FE
FE-G
GND
GM
(R-HQM)
GE
A-FF
AI-3
DTR-ENV-OUT
C-SYNC
HA-SW
GND
SP
COMP
REC-FM
PB-FM
HA-PB5
PB-C
REC-C
HA-GND
HA-GND
D-FF
SW5
PG-OUT
1/2VCC
D-FG
MOTOR-V
G12
D-OUT
REC/EE
CUE
PB-HIFI
REC-HIFI
SW12
N.C
CTL-
CTL+
A-GND
LIN-OUT
LINER
LIN-MUTE
PB/EE
REC2
AFR
P0
P1-P3
CP-OUT
STBY5
F/R
CP-FG1
G12
CP-M-V
SP-R
SP-COM
SP-L
LP-R
LP-COM
LP-L
A-R
A-COM
A-L
GB
(SM)
PG-OUT
1/2 VCC
D-FG
MOTOR-V
G12
D-OUT
GA
CTL-
CTL+
GND
A-E
A-REC
A-PB
GN
P0
P1
P3
COM(STBY5)
P2
GF
SW570
F/R
G12
CP-FG
V-REF
CP-M-V
STBY5
V-LIM
GND
CP-OUT
GC
DC
OP
FE-G
FE
T371
D-MOTOR
M570
R/P
AE
CTL
T370
CP-MOTOR
M470
SP-R
SP-COM
SP-L
LP-R
LP-COM
LP-L
A-R
A-COM
A-L
L-MOTOR
M571
ML
LM-1
LM-2
⚠ DECK
BB
(V)
⚠ T901
E
⚠ PCB-POWER-SUB
PD
GND
GND
AC-HV-2
AC-HV-1
AC45V
GND
AC-2
AC-1
AC-LV-2
AC-LV-1
MD
AC-LV-1
AC-LV-2
AC-2
AC-1
GND
AC45V
AC-HV-1
AC-HV-2
GND
GND
MM
(P-HQM)
TP2AM
D-FF
GND
PB-C
(P-HQM)
CP-M-V
G12
CP-FG1
F/R
STBY5
CP-OUT
P1-P3
P0
AFR
REC-2
PB/EE
LIN-MUTE
LINER
LIN-OUT
A-GND
CTL+
CTL-
N.C
SW12
REC-HIFI
PB-HIFI
CUE
REC/EE
J2A0
J2A1
A-OUT-1(R)
A-OUT-1(L)
⚠ PCB-MAIN
• POWER
• TUNER/VIF
• Y/C
• MC
• SERVO
• CG/VPS
TUNER-TV
⚠ TU01
BOOSTER-CONVERTER
⚠ CU01
V/U IN
V/U OUT
SAT-CONT
J541
T
EURO
AV1
J2001
EURO
AV2
J2002
⚠ PCB-CONNECTOR
NL
(MQL)
ML
(MQC)
V-IN-F
GND
IC-IN(Y)
EE
IC-OUT(Y)
EXT
A-IN-R-F
L1/L2
CONT12-2
SW12/CANAL+1
STBY12/CONT12-1
CANAL+
NB
MB
A-IN-L-F
STBY5
A-OUT-R
A-OUT-L
GND
A-OUT-1(R)
A-OUT-1(L)
NF
MF
GND
A-IN-R
A-IN-L
GND
TU-MONO
SW5
TU-V-OUT
MC
HC
SIF
MIC-COM
N.C
N.C
A+TU-MUTE
TU-MONO
GND
CONV-A-IN
SW5
SW12
PB-HIFI
REC-HIFI
GND
GND
LINER
A-IN-R
LIN-OUT
N.C
A-OUT-R
N.C
PWV
A-OUT-L
A-IN-L
N.C
N.C
MB
HB
GND
GND
A-FF
HIFI-ENV
I-LIN-L
A-L-L
A-L-R
I2C-CLK
SERIAL-GND
A-MUTE
I2C-DATA
HIFI-DATA
HIFI-CLK
SAT-REMO-F
LED-GND
TP3X
MK
CUE
GND
GND
REMO
STBY5
AC1
AC2
I-LIN-L
-30V
FLD-CLK
FLD-STRB
FLD-SI
FLD-DATA
LINE3
RESET
LINE2
LINE1
D-REQ
LINE0
JOG-2
JOG-1
TK
N.C
N.C
⚠ PCB-TIMER
J
SAT-CLK
SAT-DATA
GND
RESET
STBY5
SAT-REMO-R
SAT-REMO-F
LED-GND
N.C
MS
SS
⚠ PCB-SAT
LZ
LED-GND
SAT-REMO-F
N.C
⚠ PCB-SAT-LED
S
MU
(MQC)
QU
(MQL)
MOTOR-VB
STBY12
CP-M-VB
PWV
SW9
N.C
GND
GND
MOTOR-V
MOTOR-V
+30V
NR45V
MT
(MQC)
GT
(MQL)
STBY5
N.C
STBY5B
SW5
N.C
SW5B
SW12
DC17V
SW12B
⚠ PCB-POWER-SUB 2

○ : EMPLOYED × : NOT EMPLOY

MODEL \ SYMBOL	J
HS-651V(Y)/V(E)/V(IR)/V(G)	×
HS-651V(B)	○


J2002
PCB-HIFI
/DEC/NICAM
• HIFI
• DEC/NICAM
TP3N
MC
HC
MB
HB
HZ
SIF
MIC-COM
A+TU-MUTE
TU-MONO
CONV-A-IN
SW5
SW12
PB-HIFI
REC-HIFI
LINER
A-IN-R
LIN-OUT
A-OUT-R
PWV
A-OUT-L
A-IN-L
A-FF
HIFI-ENV
I-LIN-L
A-L-L
A-L-R
I2C-CLK
SERIAL-GND
A-MUTE
I2C-DATA
HIFI-DATA
HIFI-CLK
SAT-REMO-F
LED-GND
(MQL)
(MQC)


BB
F901 250V T630mA
L901
J1
J2
T901
F902 250V T2.5A
F903 250V T2.5A
C903 Z-.01
C904 .01
R901 K-8.2M 1/2W
AC-LV-1
AC-LV-2
AC-1
AC-2
GND
AC45V
AC-HV-1
AC-HV-2
PD
PCB-POWER-SUB

SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFOR REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS.

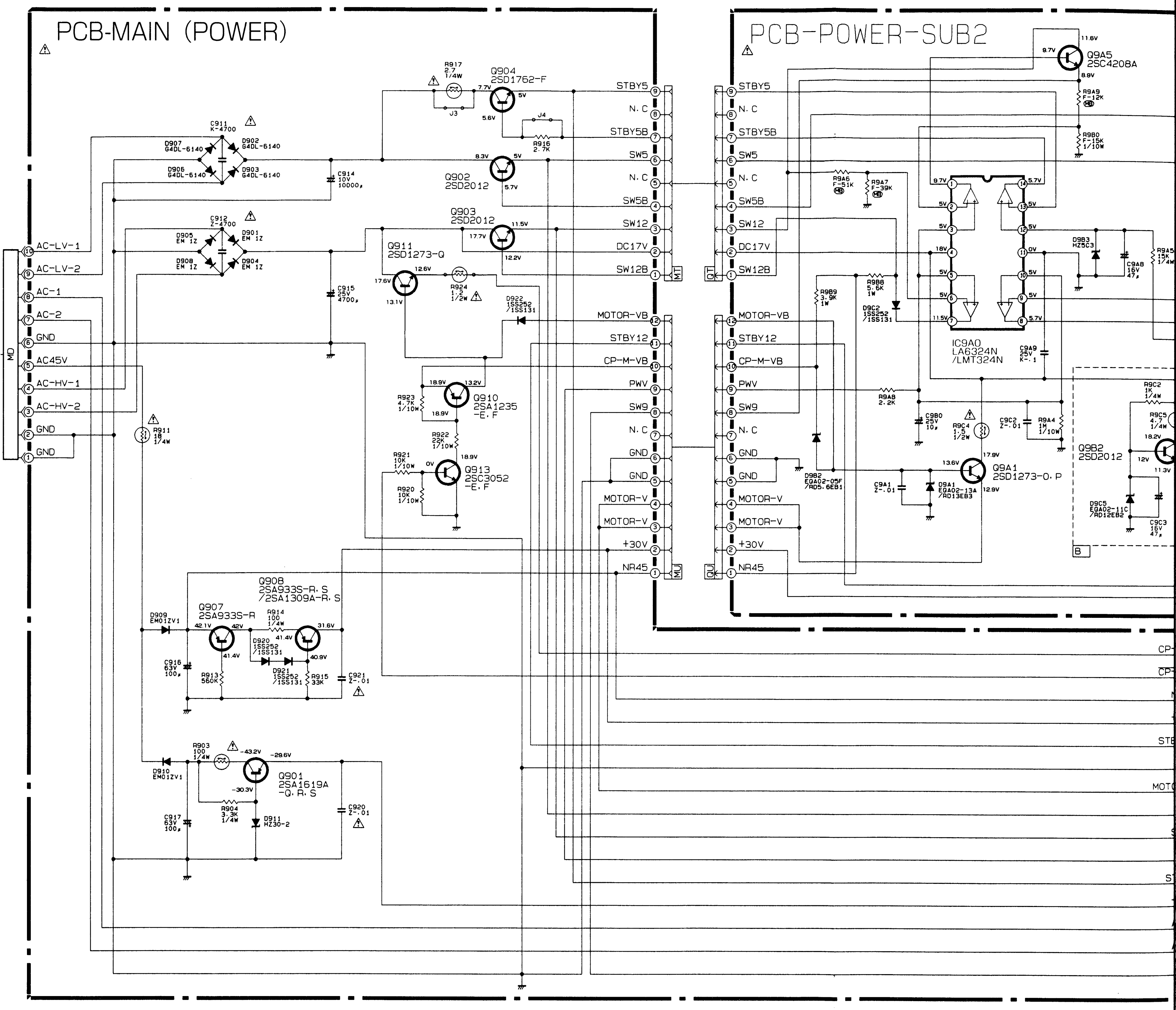
DON'T DEGRADE THE SAFETY OF THE VCR THROUGH IMPROPER SERVICING.

CONTENTS

①	PCB-BLOCK DIAGRAM PCB-MAIN (POWER) PCB-POWER-SUB PCB-POWER-SUB2
②	PCB-MAIN (TUNER/VIF) PCB-HIFI/DEC/NICAM (DEC/NICAM)
③	PCB-HIFI/DEC/NICAM (HIFI) PCB-SAT
④	PCB-CONNECTOR PCB-HEAD AMP/AUDIO
⑤	PCB-MAIN (Y/C)
⑥	PCB-MAIN (MC)
⑦	PCB-MAIN (SERVO) (CG/VPS)
⑧	PCB-TIMER TRANSMITTER REMOTE CONTROL
⑨~⑪	PATTERN

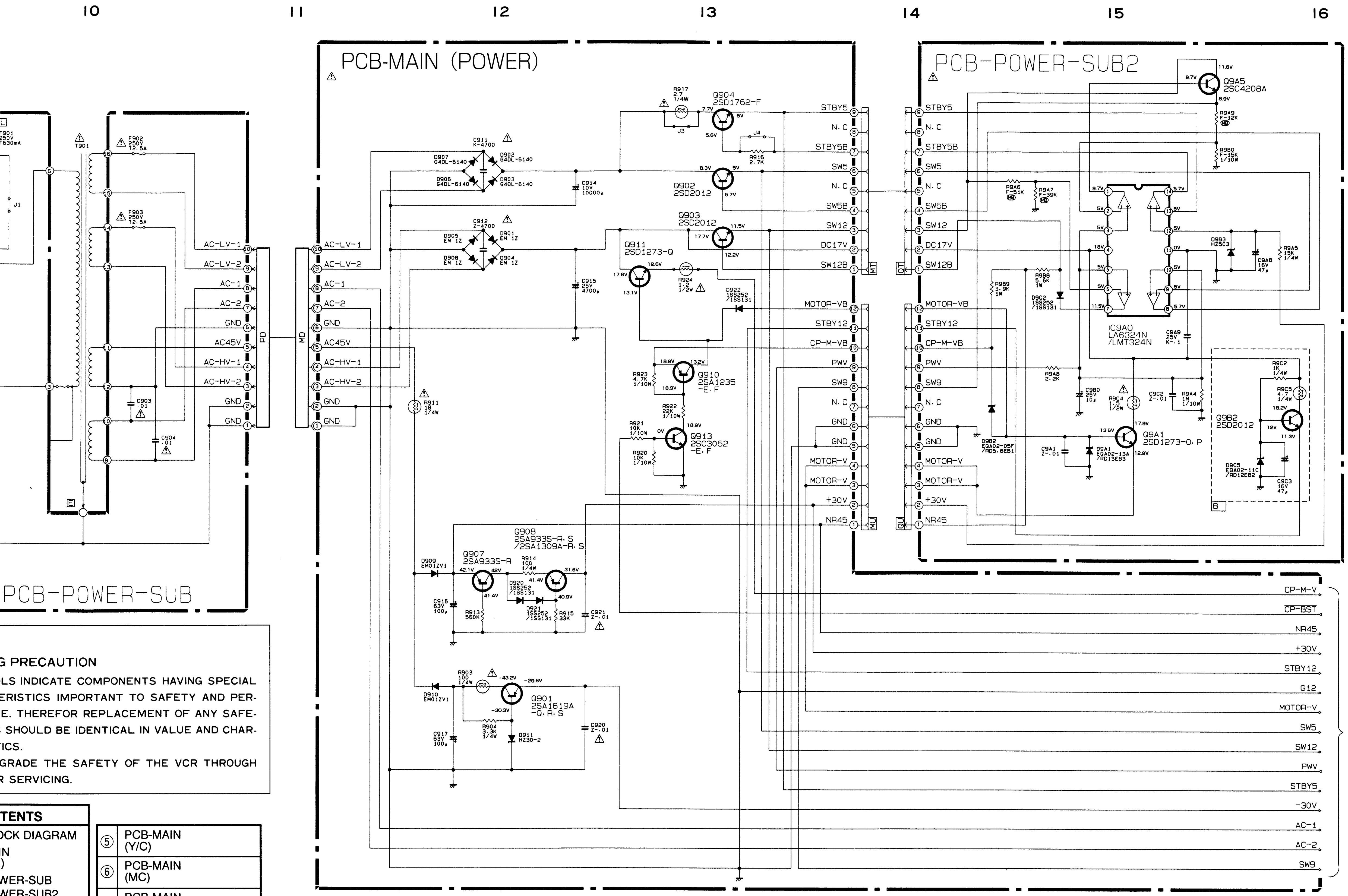
○ : EMPLOYED × : NOT EMPLOYED

MODEL \ SYMBOL	J	K	S	T
HS-651V(Y)/V(E)/V(IR)/V(G)	×	×	×	×
HS-651V(B)	○	○	○	○


PCB-MAIN (POWER)
PCB-POWER-SUB2
MD
MT
MU
QT
QU
B
Q904 2SD1762-F
Q902 2SD2012
Q903 2SD2012
Q911 2SD1273-Q
Q910 2SA1235-E.F
Q913 2SC3052-E.F
Q907 2SA933S-R
Q908 2SA933S-R.S /2SA1309A-R.S
Q901 2SA1619A-Q.R.S
Q9A5 2SC4208A
Q9A1 2SD1273-O.P
Q9B2 2SD2012
IC9A0 LA6324N /LMT324N
D907 G4DL-6140
D902 G4DL-6140
D905 G4DL-6140
D903 G4DL-6140
D905 EM 1Z
D901 EM 1Z
D908 EM 1Z
D904 EM 1Z
C911 K-4700
C912 Z-4700
C914 10V 10000μ
C915 25V 4700μ
D922 1SS252 /1SS131
D909 EM01ZV1
D910 EM01ZV1
D911 HZ30-2
R917 2.7 1/4W
R916 2.7K
J3
J4
STBY5
N.C
STBY5B
SW5
SW5B
SW12
DC17V
SW12B
MOTOR-VB
STBY12
CP-M-VB
PWV
SW9
GND
MOTOR-V
+30V
NR45
AC-LV-1
AC-LV-2
AC-1
AC-2
AC45V
AC-HV-1
AC-HV-2

○ : EMPLOYED × : NOT EMPLOYED

MODEL \ SYMBOL	J1	R916	J2	R917	J3	B	J4	L901
HS-651V(Y)/V(E)/V(G)	×	○	×	×	○	○	×	○
HS-651V(B)	×	×	×	○	×	×	○	○
HS-651V(IR)	×	○	×	×	○	×	×	○
HS-651V(A)/V(NZ)	○	○	○	×	○	×	×	×


10
11
12
13
14
15
16
PCB-MAIN (POWER)
PCB-POWER-SUB2
PCB-POWER-SUB
F901 250V T630mA
J1
T901
F902 250V T2.5A
F903 250V T2.5A
C903 .01
C904 .01
E
PD
MD
AC-LV-1
AC-LV-2
AC-1
AC-2
GND
AC45V
AC-HV-1
AC-HV-2
C911 K-4700
D907 G4DL-6140
D902 G4DL-6140
D906 G4DL-6140
D903 G4DL-6140
C914 10V 10000μ
C912 Z-4700
D905 EM 1Z
D901 EM 1Z
D908 EM 1Z
D904 EM 1Z
C915 25V 4700μ
R911 18 1/4W
R917 2.7 1/4W
J3
Q904 2SD1762-F
J4
R916 2.7K
Q902 2SD2012
Q903 2SD2012
Q911 2SD1273-Q
R924 1.2 1/2W
D922 1SS252 /1SS131
Q910 2SA1235 -E.F
R923 4.7K 1/10W
R922 22K 1/10W
R921 10K 1/10W
R920 10K 1/10W
Q913 2SC3052 -E.F
Q908 2SA933S-R.S /2SA1309A-R.S
Q907 2SA933S-R
D909 EM01ZV1
R914 100 1/4W
D920 1SS252 /1SS131
D921 1SS252 /1SS131
C916 63V 100μ
R913 560K
R915 33K
C921 Z-.01
R903 100 1/4W
D910 EM01ZV1
Q901 2SA1619A -Q.R.S
R904 3.3K 1/4W
D911 HZ30-2
C917 63V 100μ
C920 Z-.01
STBY5
N.C
STBY5B
SW5
SW5B
SW12
DC17V
SW12B
MOTOR-VB
STBY12
CP-M-VB
PWV
SW9
MOTOR-V
+30V
NR45
MT
QT
MU
QU
Q9A5 2SC4208A
R9A9 F-12K
R9B0 F-15K 1/10W
R9A6 F-51K
R9A7 F-39K
IC9A0 LA6324N /LMT324N
D9B3 HZ5C3
C9A8 16V 47μ
R9A5 15K 1/4W
R9B9 3.9K 1W
R9B8 5.6K 1W
D9C2 1SS252 /1SS131
C9A9 25V K-.1
R9A8 2.2K
C9B0 25V 10μ
R9C4 1.5 1/2W
C9C2 Z-.01
R9A4 1M 1/10W
D9B2 EQA02-05F /RD5.6EB1
C9A1 Z-.01
D9A1 EQA02-13A /RD13EB3
Q9A1 2SD1273-O.P
R9C2 1K 1/4W
R9C5 4.7 1/4W
Q9B2 2SD2012
D9C5 EQA02-11C /RD12EB2
C9C3 16V 47μ
B
CP-M-V
CP-BST
G12
-30V
TO MC

G PRECAUTION

LS INDICATE COMPONENTS HAVING SPECIAL ERISTICS IMPORTANT TO SAFETY AND PERE. THEREFOR REPLACEMENT OF ANY SAFE- SHOULD BE IDENTICAL IN VALUE AND CHARTICS.

GRADE THE SAFETY OF THE VCR THROUGH R SERVICING.

TENTS

OCK DIAGRAM
IN
)
WER-SUB
WER-SUB2
IN
VIF)
I/DEC/NICAM
CAM)
I/DEC/NICAM
T
NNECTOR
AD AMP/AUDIO

⑤	PCB-MAIN (Y/C)
⑥	PCB-MAIN (MC)
⑦	PCB-MAIN (SERVO) (CG/VPS)
⑧	PCB-TIMER TRANSMITTER REMOTE CONTROL
⑨ ~ ⑪	PATTERN

○ : EMPLOYED × : NOT EMPLOYED

MODEL \ SYMBOL	J1	R916	J2	R917	J3	B	J4	L901
HS-651V(Y)/V(E)/V(G)	×	○	×	×	○	○	×	○
HS-651V(B)	×	×	×	○	×	×	○	○
HS-651V(IR)	×	○	×	×	○	×	×	○
HS-651V(A)/V(NZ)	○	○	○	×	○	×	×	×

SCHEMATIC DIAGRAM

• NOTE

1. Each voltage should be within ±20% of the DC voltages measured with a digital voltmeter.
2. The voltages parenthesised are on SP recording mode. While those without parenthesised on SP play back mode.
3. Waveforme were taken with standard colour bar signal.
4. TP6A, etc. show Test Points.

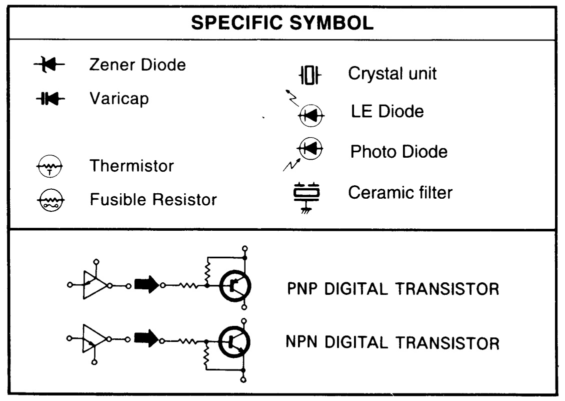
5. CAPACITORS

Value			Not indicated: PF, for numbers more than 1 μF, for numbers less than 1
Dielectric Strength			Not indicated :50V
Tolerance			Not indicated =±10% (No Tolerance is indicated for electrolytic capacitors and ±20%) G=±2% P=+100% −0% Q=+30% −10% C=±0.25PF J=±5% D=±0.5PF K=±10% Z=+80% −20% T=+200% −0% F=±1PF M=±20% G=±2PF
Sort	I	Parts except for chips	Not indicated : Ceramic capacitor (MF) : Polyester capacitor (PP) : Polypropylene film capacitor (ALM) : Aluminus electrolytic capacitor (TF) : Twin film capacitor (SC) : Semiconductor ceramic capacitor (MP) : Metalized paper (MPP) : Metalized plastic film capacitor (MMF) : Metalized polyester capacitor (MF.PP) : Polyester polypropylene film capacitor (PS) : Styrol capacitor (TAN)or(TANT) : Tantalum capacitor —╫— : Electrolytic capacitor (BP)or(NP) : Non polarized electrolytic capacitor
	II	Chips	Not indicated : Ceramic capacitor chip —╫— : Electrolytic capacitor (BP)or(NP) : Non polarized electrolytic capacitor chip
Characteristic (only ceramic capacitor)			Not indicated : F or B(high dielectric percentage) CH,SL,etc. : Temperature compensating types

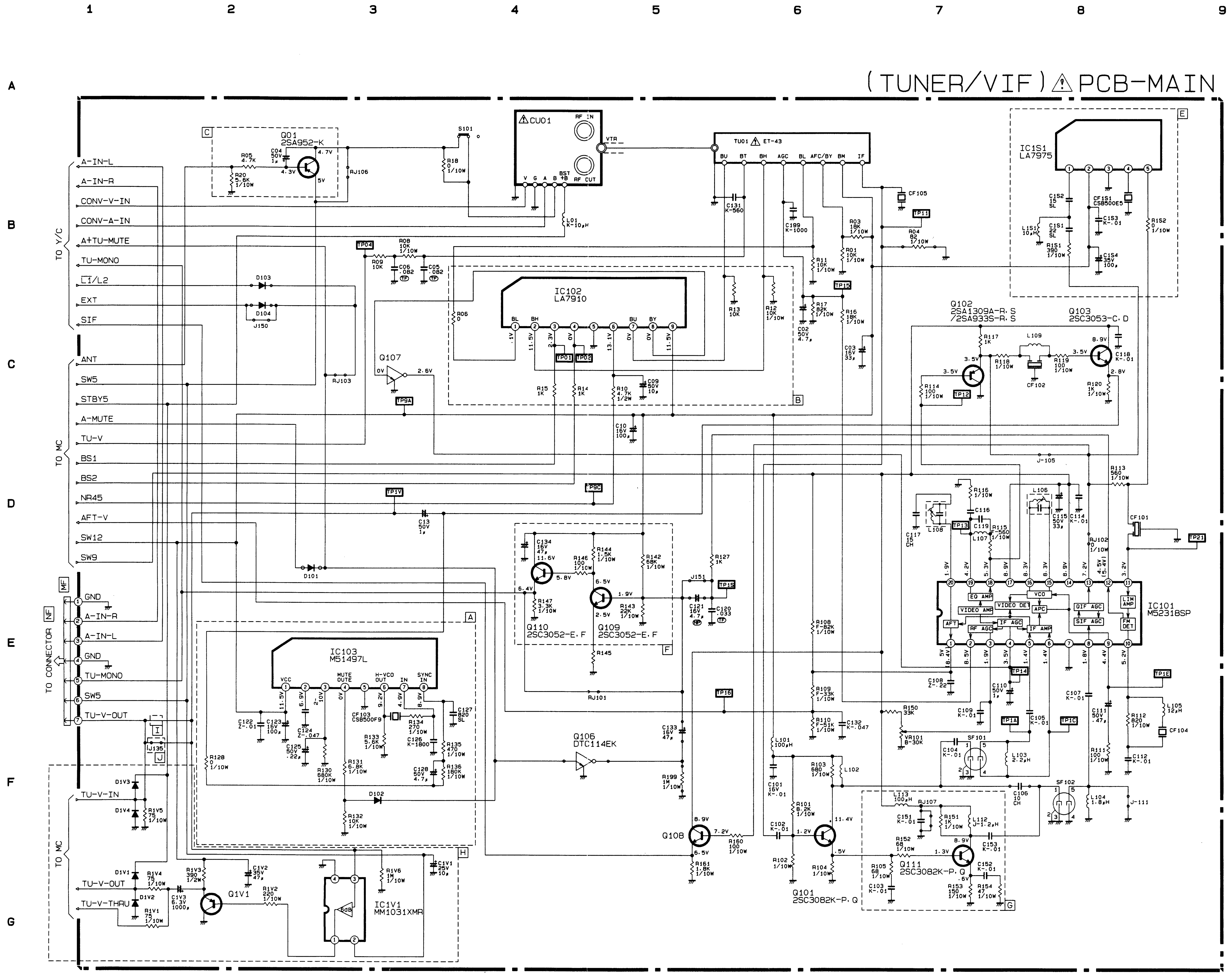
6. Resistors

Value			Not indicated = Ω K = kΩ(1000Ω) M = MΩ(1000kΩ)
Wattage		Parts except for chips	Not indicated = 1/4W or 1/6W
		Chips	Not indicated = 1/10W
Tolerance			Not indicated =±5% D=±0.5% J=±5% F=±1% K=±10%
Short	I	Parts except for chips	Not indicated : Carbon resistor (S) : Fixed composition resistor (MB) : Metal oxide film resistor(type B) (CE) : Cemented resister (W) : Wire wound resister (M) : Metal film resister (MPC) : Metal plate cement resister (ML) : Metal liner resister
	II	Chip	Not indicated : Chip resistor

7. This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.


SPECIFIC SYMBOL
Zener Diode
Varicap
Thermistor
Fusible Resistor
Crystal unit
LE Diode
Photo Diode
Ceramic filter
PNP DIGITAL TRANSISTOR
NPN DIGITAL TRANSISTOR

(TUNER/VIF) ⚠ PCB-MAIN



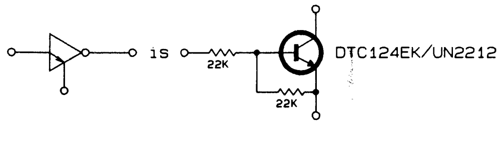
1 2 3 4 5 6 7 8 9
A B C D E F G
TO Y/C
A-IN-L
A-IN-R
CONV-V-IN
CONV-A-IN
A+TU-MUTE
TU-MONO
L1/L2
EXT
SIF
TO MC
ANT
SW5
STBY5
A-MUTE
TU-V
BS1
BS2
NR45
AFT-V
SW12
SW9
TO CONNECTOR
MF
NF
GND
A-IN-R
A-IN-L
GND
TU-MONO
SW5
TU-V-OUT
TO MC
TU-V-IN
TU-V-OUT
TU-V-THRU
Q01 2SA952-K
R05 4.7K
R20 5.6K 1/10W
C04 50V 1μ
4.7V
4.3V
5V
RJ106
S101
R18 0 1/10W
⚠CU01
RF IN
RF OUT
VTR
V G A B BST +B
L01 K-10μH
TU01 ⚠ ET-43
BU BT BH AGC BL AFC/BY BM IF
C131 K-560
C199 K-1000
CF105
TP11
R03 18K 1/10W
R04 82 1/10W
R01 10K 1/10W
R11 10K 1/10W
TP04
R08 10K 1/10W
R09 10K
C06 .082
C05 .082
D103
D104
J150
R06 0
IC102 LA7910
BL BH BU BY
R13 10K
R12 10K 1/10W
TP15
R17 82K 1/10W
R16 18K 1/10W
C02 50V 4.7μ
C03 16V 33μ
TP01 TP02
Q107
0V 2.6V
RJ103
TP9A
R15 1K
R14 1K
R10 4.7K 1/2W
C09 50V 10μ
C10 16V 100μ
TP9C
TP1V
C13 50V 1μ
D101
IC1S1 LA7975
C1S2 15 SL
CF1S1 CSB500E5
C1S3 K-.01
L1S1 10μH
C1S1 22 SL
R1S1 390 1/10W
C1S4 35V 100μ
R1S2 0 1/10W
Q102 2SA1309A-R.S /2SA933S-R.S
Q103 2SC3053-C.D
R117 1K
L109
R118 1/10W
R119 100 1/10W
CF102
C118 K-.01
8.9V 3.5V 2.8V
R114 100 1/10W
TP12
R120 1K 1/10W
J-105
R113 560 1/10W
R116 1/10W
C116
C119
R115 F-560 1/10W
L107
L108
C117 15 CH
TP13
L106
C115 50V 33μ
C114 K-.01
RJ102
CF101
TP21
IC101 M52318SP
LIM AMP
FM DET
QIF AGC
SIF AGC
EQ AMP
VIDEO DET
VCO
APC
VIDEO AMP
AFT
RF AGC
IF AGC
IF AMP
TP14
C108 Z-.22
C110 50V 1μ
C109 K-.01
C105 K-.01
TP1A
TP1C
TP1E
C107 K-.01
C111 50V .47μ
R112 820 1/10W
L105 12μH
CF104
R111 100 1/10W
C112 K-.01
R150 33K
VR101 B-30K
SF101
C104 K-.01
L103 2.2μH
SF102
C106 10 CH
L104 1.8μH
J-111
L113 100μH
RJ107
C151 K-.01
R151 1K 1/10W
L112 J-1.2μH
R152 68 1/10W
Q111 2SC3082K-P.Q
C153 K-.01
C152 K-.01
R105 68 1/10W
C103 K-.01
R153 150 1/10W
R154 47 1/10W
Q101 2SC3082K-P.Q
L101 100μH
C101 16V K-.01
R103 680 1/10W
L102
R101 8.2K 1/10W
C102 K-.01
R102 1/10W
R104 1/10W
11.4V 1.2V .5V
Q108
8.9V 7.2V 6.5V
R160 100 1/10W
R161 1.8K 1/10W
R108 F-82K 1/10W
R109 F-33K 1/10W
R110 F-51K 1/10W
C132 K-.047
TP16
RJ101
R127 1K
J151
TP1S
C121 16V 4.7μ
C120 .033
C134 16V 47μ
R146 100 1/10W
R144 1.5K 1/10W
R142 68K 1/10W
R147 3.3K 1/10W
R143 22K 1/10W
Q110 2SC3052-E.F
Q109 2SC3052-E.F
R145
11.6V 5.8V 6.5V 1.9V 6.4V 2.5V
C133 16V 47μ
R199 1M 1/10W
Q106 DTC114EK
IC103 M51497L
VCC MUTE OUTE H-VCO OUT IN SYNC IN
C122 Z-.01
C123 16V 100μ
C124 Z-.047
C125 50V .22μ
R130 680K 1/10W
CF103 CSB500F9
R133 5.6K 1/10W
R134 270 1/10W
C126 K-1800
C127 820 SL
R135 470 1/10W
C128 50V 4.7μ
R136 180K 1/10W
R131 6.8K 1/10W
R128 0 1/10W
D102
R132 10K 1/10W
J135
D1V3
D1V4
R1V5 75 1/10W
D1V1
D1V2
R1V4 75 1/10W
R1V1 75 1/10W
C1V3 6.3V 1000μ
R1V3 390 1/2W
Q1V1
C1V2 35V 47μ
R1V2 220 1/10W
IC1V1 MM1031XMR
6dB
R1V6 1M 1/10W
C1V1 25V 10μ
A B C E F G H I J

HS-651V(B)/V(G)/V(E)/V(Y)/V(IR) ②

○ : Employed, × : Not Employed

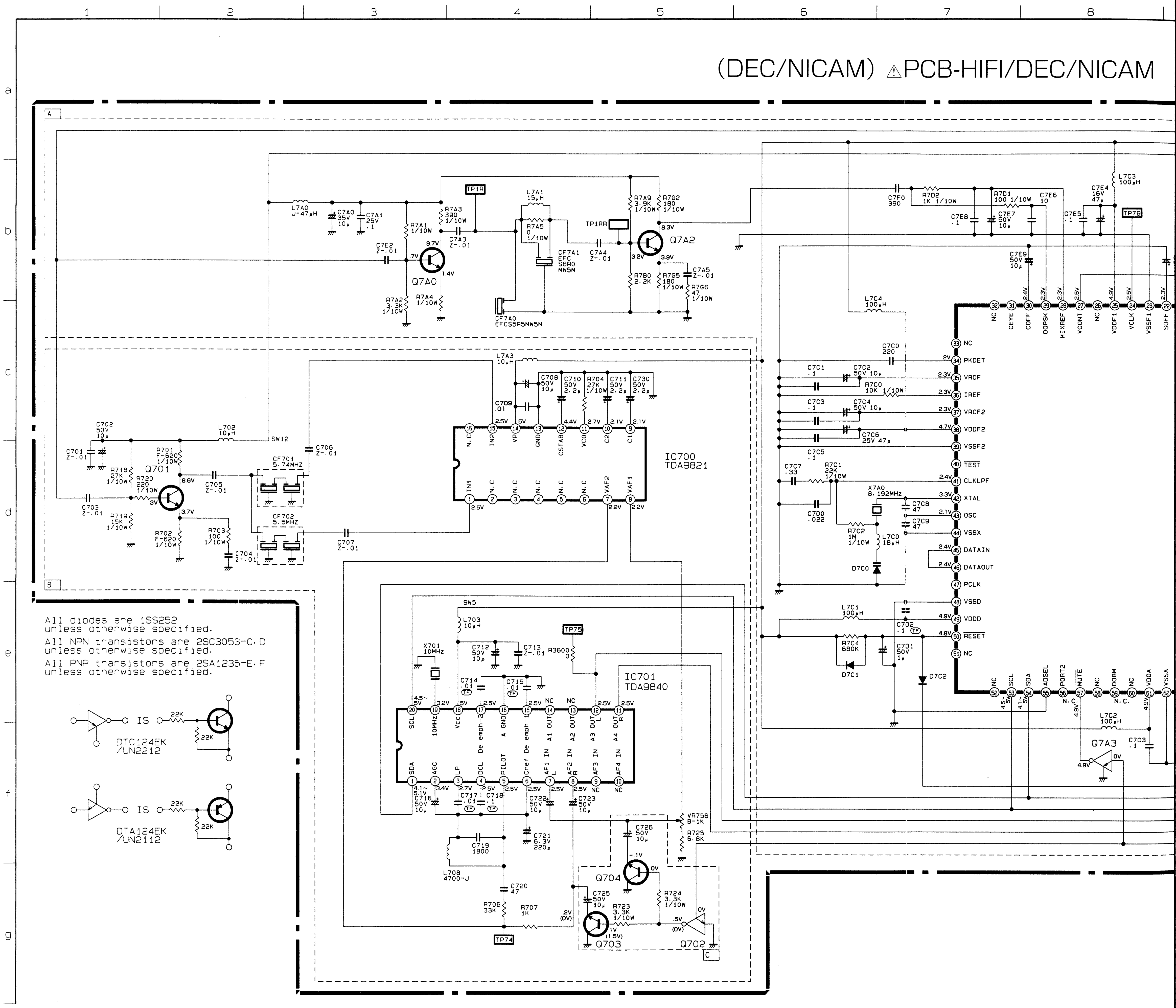
SYMBOL	MODEL / ADDRESS	(Y)	(B)	(E)	(IR)	(G)	(A)	(NZ)
A	E-3	○	×	○	×	○	×	×
B	C-5	○	×	○	○	○	○	○
C	A-2	×	×	×	×	×	○	○
E	A-8	×	×	×	×	×	×	×
F	D-5	○	×	○	×	○	○	×
G	G-7	×	×	○	○	×	×	○
H	G-3	×	×	×	×	×	×	○
I	E-2	○	○	○	○	○	×	×
J	E-2	×	×	×	×	×	○	×
C106	F-8	○	○	×	×	○	○	×
C116	D-7	×	×	×	×	×	×	33SL
C119	D-7	18SL	15SL	18SL	15SL	18SL	15SL	12SL
C121	E-5	○	○	○	○	○	○	×
J151	E-5	×	×	×	×	×	×	○
C133	F-5	○	×	○	×	○	○	○
CF105	B-7	×	×	×	×	×	×	×
D101	D-3	○	×	○	×	○	×	×
D103	B-2	×	×	×	×	×	○	○
D104	B-2	×	×	×	×	×	○	○
J-105	D-8	×	×	×	×	×	×	×
J-111	F-8	×	×	×	×	×	×	×
L102	F-6	J-1.2μH	J-1.2μH	J-2.2μH	J-1.2μH	J-1.2μH	J-2.2μH	J-1.2μH
L107	D-7	J-39μH	J-56μH	J-39μH	J-47μH	J-39μH	J-47μH	J-39μH
L109	C-8	J-5.6μH	J-8.2μH	J-5.6μH	J-8.2μH	J-5.6μH	J-5.6μH	J-5.6μH
Q106	F-4	○	×	○	×	○	○	○
Q107	C-3	○	×	○	×	○	×	×
R04	B-7	×	○	×	○	×	○	○
R18	A-4	×	×	×	×	×	○	○
R102	G-6	1K	1K	1.8K	1.8K	1K	1K	1.8K
R104	G-6	68	68	220	220	68	68	220
R116	D-7	×	×	×	×	×	×	0Ω
R118	C-7	F-150	F-390	F-150	F-330	F-150	F-180	F-220
R199	F-5	○	×	○	×	○	○	○
RJ101	E-5	×	○	×	○	×	○	○
RJ102	D-8	○	○	○	○	○	○	○
RJ103	C-3	×	×	×	×	×	○	○
RJ106	B-3	○	○	○	○	○	×	×
RJ107	F-7	○	○	×	×	○	×	×
S101	A-4	○	○	○	○	○	×	×
J150	C-2	×	×	×	×	×	×	×
R145	E-4	560	×	560	×	560	1.5K	×

ALL NPN TRANSISTORS ARE 2SC3052-E.F UNLESS OTHERWISE SPECIFIED.
ALL DIODES ARE 1SS252/1SS131 UNLESS OTHERWISE SPECIFIED.



IS
22K
22K
DTC124EK/UN2212

(DEC/NICAM) ⚠PCB-HIFI/DEC/NICAM



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a
b
c
d
e
f
g
A
B
C
IC700
TDA9821
IC701
TDA9840
Q7A0
Q7A2
Q7A3
Q701
Q702
Q703
Q704
TP1R
TP1RR
TP75
TP76
TP74
L7A0 J-47μH
L7A1 15μH
L7A3 10μH
L702 10μH
L703 10μH
L708 4700-J
L7C0 18μH
L7C1 100μH
L7C2 100μH
L7C3 100μH
L7C4 100μH
CF7A0 EFCS5R5MW5M
CF7A1 EFC S5R0 MW5M
CF701 5.74MHz
CF702 5.5MHz
X701 10MHz
X7A0 8.192MHz
SW12
SW5
VR756 B-1K
R725 6.8K
D7C0
D7C1
D7C2
N.C
IN2
VP
GND
CSTAB
VCO
C2
C1
IN1
VAF2
VAF1
SCL
10MHz
Vcc
De emph-R
A GND
De emph-L
A1 OUT
A2 OUT
A3 OUT L
A4 OUT R
SDA
AGC
LP
DCL
PILOT
Cref
AF1 L
AF2 R
A3 IN
A4 IN
NC
CEYE
COFF
DQPSK
MIXREF
VCONT
VDDF1
VCLK
VSSF1
SOFF
PKDET
VROF
IREF
VRCF2
VDDF2
VSSF2
TEST
CLKLPF
XTAL
OSC
VSSX
DATAIN
DATAOUT
PCLK
VSSD
VDDD
RESET
ADSEL
PORT2
MUTE
DOBM
VDDA
VSSA

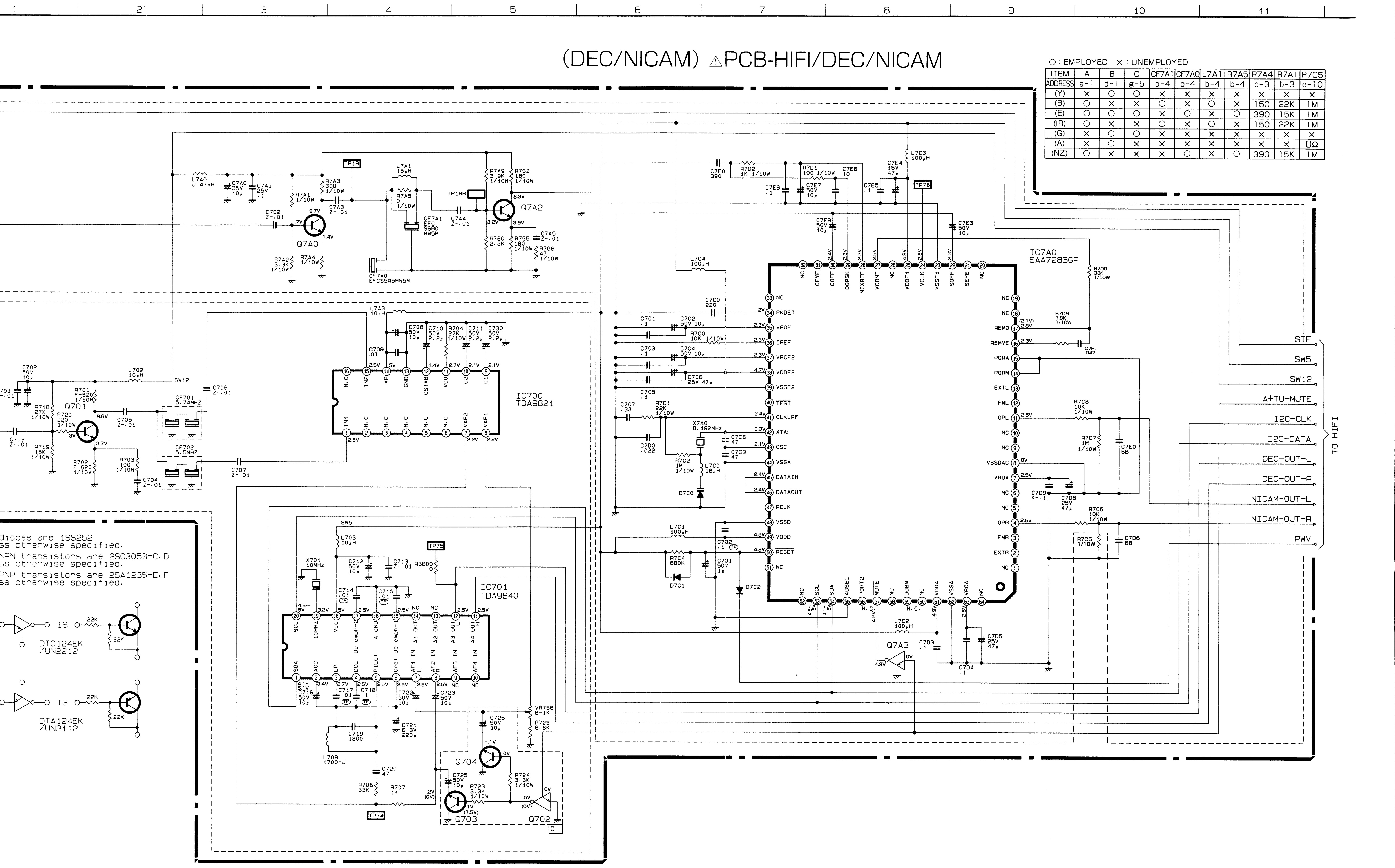
All diodes are 1SS252 unless otherwise specified.
All NPN transistors are 2SC3053-C.D unless otherwise specified.
All PNP transistors are 2SA1235-E.F unless otherwise specified.

IS
22K
22K
DTC124EK /UN2212
IS
22K
22K
DTA124EK /UN2112

(DEC/NICAM) ⚠PCB-HIFI/DEC/NICAM

○ : EMPLOYED × : UNEMPLOYED

ITEM	A	B	C	CF7A1	CF7A0	L7A1	R7A5	R7A4	R7A1	R7C5
ADDRESS	a-1	d-1	g-5	b-4	b-4	b-4	b-4	c-3	b-3	e-10
(Y)	×	○	○	×	×	×	×	×	×	×
(B)	○	×	×	○	×	○	×	150	22K	1M
(E)	○	○	○	×	○	×	○	390	15K	1M
(IR)	○	×	×	○	×	○	×	150	22K	1M
(G)	×	○	○	×	×	×	×	×	×	×
(A)	×	○	×	×	×	×	×	×	×	0Ω
(NZ)	○	×	×	×	○	×	○	390	15K	1M



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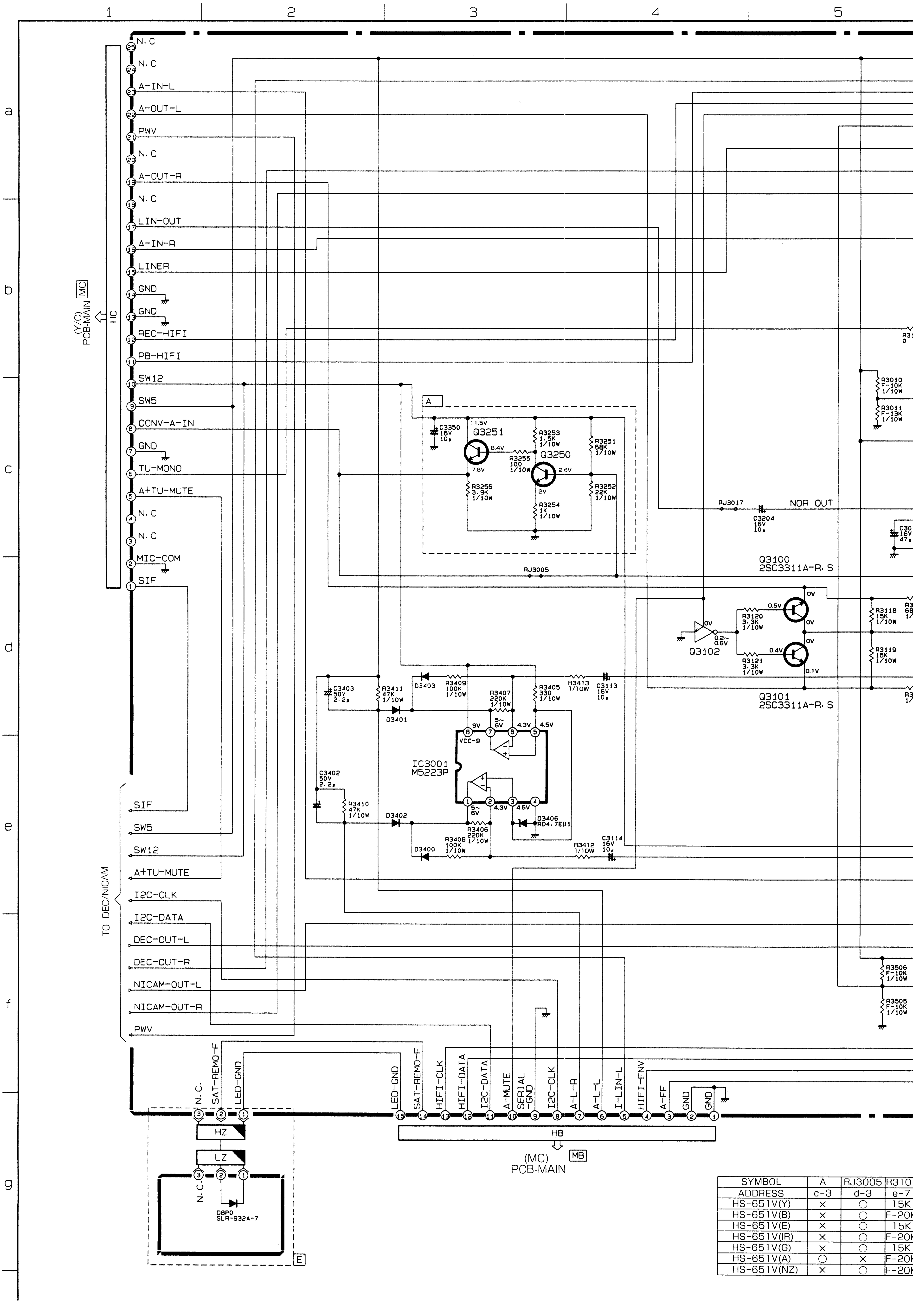
11
IC7A0
SAA7283GP
IC700
TDA9821
IC701
TDA9840
Q7A0
Q7A2
Q7A3
Q701
Q702
Q703
Q704
TP1R
TP1RR
TP74
TP75
TP76
CF7A0
EFCS5R5MW5M
CF7A1
EFC S6R0 MW5M
CF701
5.74MHZ
CF702
5.5MHZ
X701
10MHz
X7A0
8.192MHZ
L7A0
L7A1
L7A3
L702
L703
L708
L7C0
L7C1
L7C2
L7C3
L7C4
VR756
B-1K
SW5
SW12
SIF
SW5
SW12
A+TU-MUTE
I2C-CLK
I2C-DATA
DEC-OUT-L
DEC-OUT-R
NICAM-OUT-L
NICAM-OUT-R
PWV
TO HIFI
IS
22K
DTC124EK
/UN2212
DTA124EK
/UN2112

diodes are 1SS252
ss otherwise specified.

NPN transistors are 2SC3053-C·D
ss otherwise specified.

PNP transistors are 2SA1235-E·F
ss otherwise specified.


1
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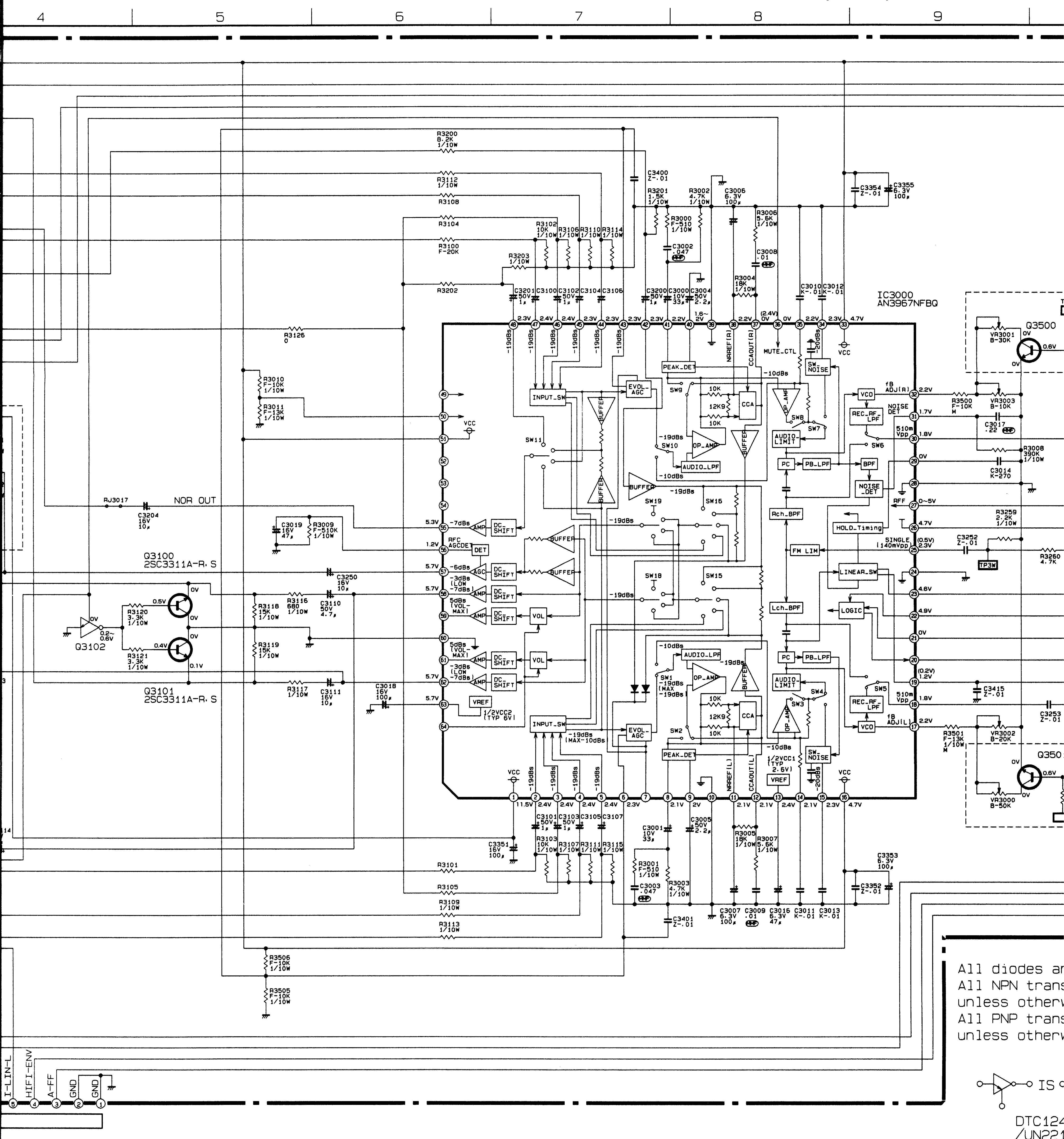
a
b
c
d
e
f
g
N. C
A-IN-L
A-OUT-L
PWV
A-OUT-R
LIN-OUT
A-IN-R
LINER
GND
REC-HIFI
PB-HIFI
SW12
SW5
CONV-A-IN
TU-MONO
A+TU-MUTE
MIC-COM
SIF
(Y/C) PCB-MAIN
MC
HC
A
C3350 16V 10μ
Q3251
Q3250
R3253 1.5K 1/10W
R3255 100 1/10W
R3251 68K 1/10W
R3252 22K 1/10W
R3256 3.9K 1/10W
R3254 1K 1/10W
11.5V
8.4V
7.8V
2.6V
2V
RJ3005
RJ3017
C3204 16V 10μ
NOR OUT
Q3100 2SC3311A-R. S
Q3101 2SC3311A-R. S
Q3102
R3120 3.3K 1/10W
R3121 3.3K 1/10W
R3118 15K 1/10W
R3119 15K 1/10W
R3010 F-10K 1/10W
R3011 F-13K 1/10W
0.5V
0.4V
0V
0.1V
0.2~ 0.8V
C3403 50V 2.2μ
R3411 47K 1/10W
D3403
D3401
R3409 100K 1/10W
R3407 220K 1/10W
R3405 330 1/10W
R3413 1/10W
C3113 16V 10μ
IC3001 M5223P
VCC-9
9V
5~ 6V
4.3V
4.5V
C3402 50V 2.2μ
R3410 47K 1/10W
D3402
D3400
R3406 220K 1/10W
R3408 100K 1/10W
D3406 RD4. 7EB1
R3412 1/10W
C3114 16V 10μ
TO DEC/NICAM
I2C-CLK
I2C-DATA
DEC-OUT-L
DEC-OUT-R
NICAM-OUT-L
NICAM-OUT-R
R3506 F-10K 1/10W
R3505 F-10K 1/10W
N. C.
SAT-REMO-F
LED-GND
HZ
LZ
D8P0 SLR-932A-7
E
HIFI-CLK
HIFI-DATA
I2C-DATA
A-MUTE
SERIAL -GND
I2C-CLK
A-L-R
A-L-L
I-LIN-L
HIFI-ENV
A-FF
GND
HB
(MC) PCB-MAIN
MB

SYMBOL	A	RJ3005	R310
ADDRESS	c-3	d-3	e-7
HS-651V(Y)	×	○	15K
HS-651V(B)	×	○	F-20
HS-651V(E)	×	○	15K
HS-651V(IR)	×	○	F-20
HS-651V(G)	×	○	15K
HS-651V(A)	○	×	F-20
HS-651V(NZ)	×	○	F-20

(HIFI) ⚠PCB-HIFI/



4
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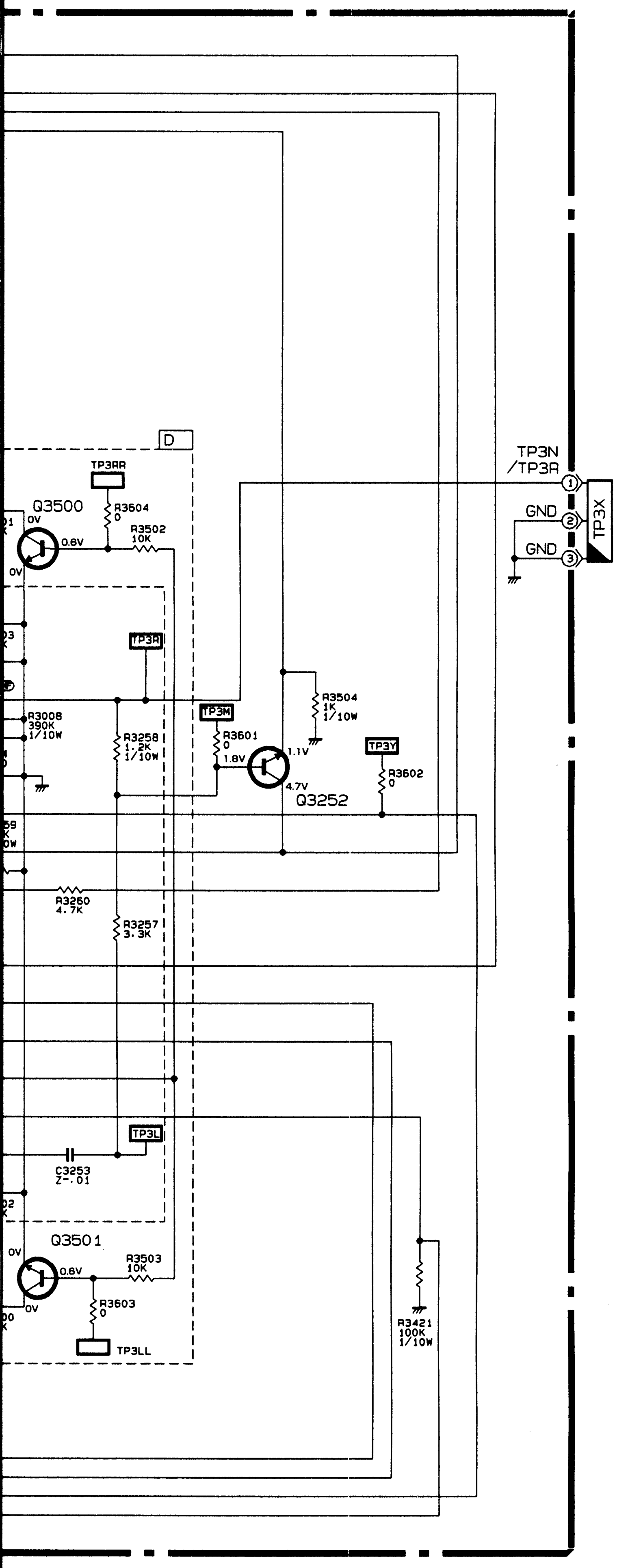
IC3000
AN3967NFBQ
Q3100
2SC3311A-R, S
Q3101
2SC3311A-R, S
Q3102
Q3500
Q350
NOR OUT
RJ3017
C3204 16V 10μ
C3019 16V 47μ
R3009 F-510K 1/10W
R3200 8.2K 1/10W
R3112 1/10W
R3108
R3104
R3100 F-20K
R3202
R3203 1/10W
R3102 10K 1/10W
R3106 1/10W
R3110 1/10W
R3114 1/10W
R3126 0
R3010 F-10K 1/10W
R3011 F-13K 1/10W
R3118 15K 1/10W
R3116 680 1/10W
R3119 15K 1/10W
R3120 3.3K 1/10W
R3121 3.3K 1/10W
R3117 1/10W
C3250 16V 10μ
C3110 50V 4.7μ
C3111 16V 10μ
C3018 16V 100μ
C3400 Z-.01
R3201 1.5K 1/10W
R3002 4.7K 1/10W
C3006 6.3V 100μ
R3000 F-510 1/10W
C3002 .047
R3006 5.6K 1/10W
C3008 .01
R3004 18K 1/10W
C3354 Z-.01
C3355 6.3V 100μ
C3201 50V 1μ
C3100
C3102 50V 1μ
C3104
C3106
C3200 50V 1μ
C3000 10V 33μ
C3004 50V 2.2μ
C3010 K-.01
C3012 K-.01
INPUT_SW
BUFFER
EVOL-AGC
PEAK_DET
CCA
OP_AMP
SW_NOISE
MUTE_CTL
AUDIO_LIMIT
AUDIO_LPF
SW7
SW8
SW9
SW10
SW11
SW15
SW16
SW18
SW19
SW1
SW2
SW3
SW4
SW5
SW6
DC-SHIFT
AMP
AGC
DET
VOL
VREF
1/2VCC2 (TYP 6V)
RFC AGCDET
VCO
REC_RF_LPF
PC
PB_LPF
BPF
NOISE_DET
Rch_BPF
Lch_BPF
HOLD_Timing
FM LIM
LINEAR_SW
LOGIC
fB ADJ(R)
fB ADJ(L)
NOISE DET
SINGLE (140mVpp)
RFF
NAREF(R)
CCAOUT(R)
NAREF(L)
CCAOUT(L)
1/2VCC1 (TYP 2.6V)
VCC
VR3001 B-30K
VR3003 B-10K
VR3002 B-20K
VR3000 B-50K
R3500 F-10K M
R3501 F-13K 1/10W M
C3017 .22
R3008 390K 1/10W
C3014 K-270
R3259 2.2K 1/10W
C3252 Z-.01
R3260 4.7K
TP3W
C3415 Z-.01
C3253 Z-.01
C3101 50V 1μ
C3103 50V 1μ
C3105
C3107
C3351 16V 100μ
R3103 10K 1/10W
R3107 1/10W
R3111 1/10W
R3115 1/10W
R3101
R3105
R3109 1/10W
R3113 1/10W
C3001 10V 33μ
C3005 50V 2.2μ
R3001 F-510 1/10W
C3003 .047
R3003 4.7K 1/10W
C3401 Z-.01
R3005 18K 1/10W
R3007 5.6K 1/10W
C3007 6.3V 100μ
C3009 .01
C3016 6.3V 47μ
C3011 K-.01
C3013 K-.01
C3353 6.3V 100μ
C3352 Z-.01
R3506 F-10K 1/10W
R3505 F-10K 1/10W
I-LIN-L
HIFI-ENV
A-FF
GND
GND
IS
DTC124
/UN221

All diodes ar
All NPN trans
unless otherw
All PNP trans
unless otherw

SYMBOL	A	RJ3005	R3101	R3105	R3202	R3104	R3107	R3203	R3106	R3117	E	D	R3108	R3109	R3110	R3111	C3104	C3105	R3112	R3113	R3114	R3115	C3106	C3107	C3100	R34
ADDRESS	c-3	d-3	e-7	e-6	b-6	b-6	e-6	b-7	b-7	d-5	g-2	b-10	b-6	e-6	b-7	e-7	b-7	e-7	a-6	f-6	b-7	e-7	b-7	e-7	b-6	e-
HS-651V(Y)	×	○	15K	33K	27K	33K	12K	12K	12K	3.9K	×	○	×	×	×	×	×	×	27K	27K	6.8K	6.8K	50v1μ	50v1μ	50v1μ (NP)	12
HS-651V(B)	×	○	F-20K	4.7K	2.7K	4.7K	22K	22K	22K	680Ω	○	○	18K	18K	22K	22K	50v1μ	50v1μ	×	×	×	×	×	×	50v1μ	12
HS-651V(E)	×	○	15K	33K	27K	33K	12K	12K	12K	3.9K	×	○	18K	18K	22K	22K	50v1μ	50v1μ	27K	27K	6.8K	6.8K	50v1μ	50v1μ	50v1μ (NP)	12
HS-651V(IR)	×	○	F-20K	4.7K	2.7K	4.7K	22K	22K	22K	680Ω	×	○	18K	18K	22K	22K	50v1μ	50v1μ	×	×	×	×	×	×	50v1μ	12
HS-651V(G)	×	○	15K	33K	27K	33K	12K	12K	12K	3.9K	×	○	×	×	×	×	×	×	27K	27K	6.8K	6.8K	50v1μ	50v1μ	50v1μ (NP)	12
HS-651V(A)	○	×	F-20K	18K	15K	18K	22K	22K	22K	680Ω	×	○	×	×	×	×	×	×	39K	39K	6.8K	6.8K	50v1μ	50v1μ	50v1μ	15
HS-651V(NZ)	×	○	F-20K	4.7K	2.7K	4.7K	22K	22K	22K	680Ω	×	○	18K	18K	22K	22K	50v1μ	50v1μ	×	×	×	×	×	×	50v1μ	12

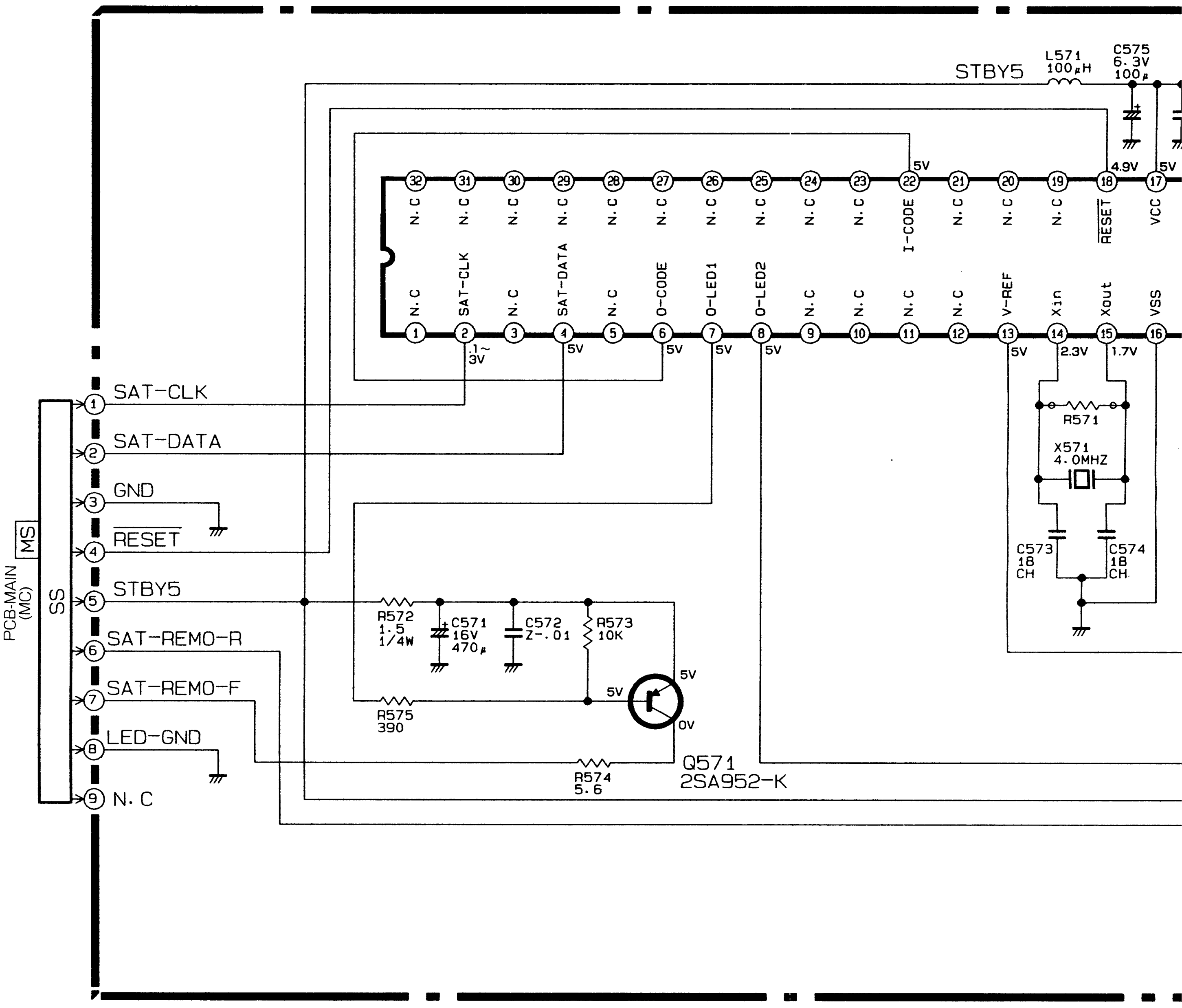
HIFI/DEC/NICAM

10 11



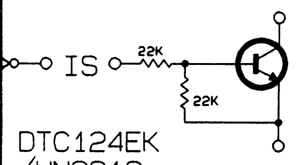
D
TP3RR
Q3500
R3604 0
R3502 10K
0.6V
0V
TP3H
TP3M
R3008 390K 1/10W
R3258 1.2K 1/10W
R3601 0
1.8V
1.1V
4.7V
Q3252
R3504 1K 1/10W
TP3Y
R3602 0
R3260 4.7K
R3257 3.3K
TP3N /TP3R
GND
GND
TP3X
TP3L
C3253 Z-.01
Q3501
R3503 10K
R3603 0
TP3LL
R3421 100K 1/10W

HS-651V

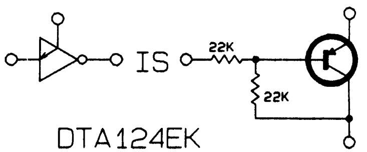


STBY5
L571 100µH
C575 6.3V 100µ
5V
4.9V
5V
N.C
I-CODE
RESET
VCC
SAT-CLK
SAT-DATA
O-CODE
O-LED1
O-LED2
V-REF
Xin
Xout
VSS
.1~ 3V
5V
2.3V
1.7V
R571
X571 4.0MHZ
C573 18 CH
C574 18 CH
SAT-CLK
SAT-DATA
GND
RESET
STBY5
SAT-REMO-R
SAT-REMO-F
LED-GND
N.C
PCB-MAIN (MC)
MS
SS
R572 1.5 1/4W
C571 16V 470µ
C572 Z-.01
R573 10K
R575 390
5V
0V
R574 5.6
Q571 2SA952-K

odes are 1SS252/1SS131 unless otherwise specified
N transistors are 2SC3052-E,F
otherwise specified.
P transistors are 2SA1235-E,F
otherwise specified.



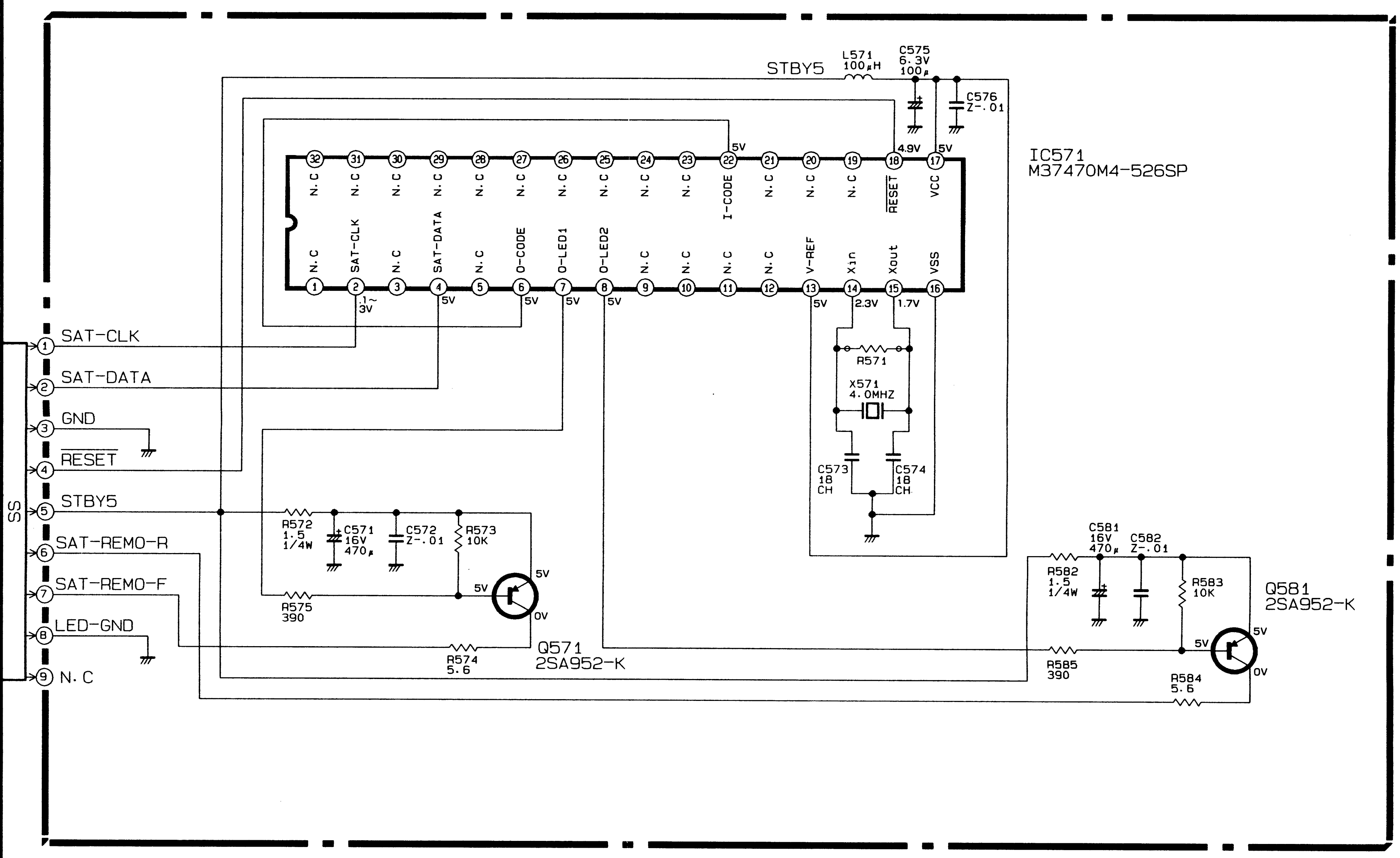
DTC124EK
/UN2212



DTA124EK
/UN2112

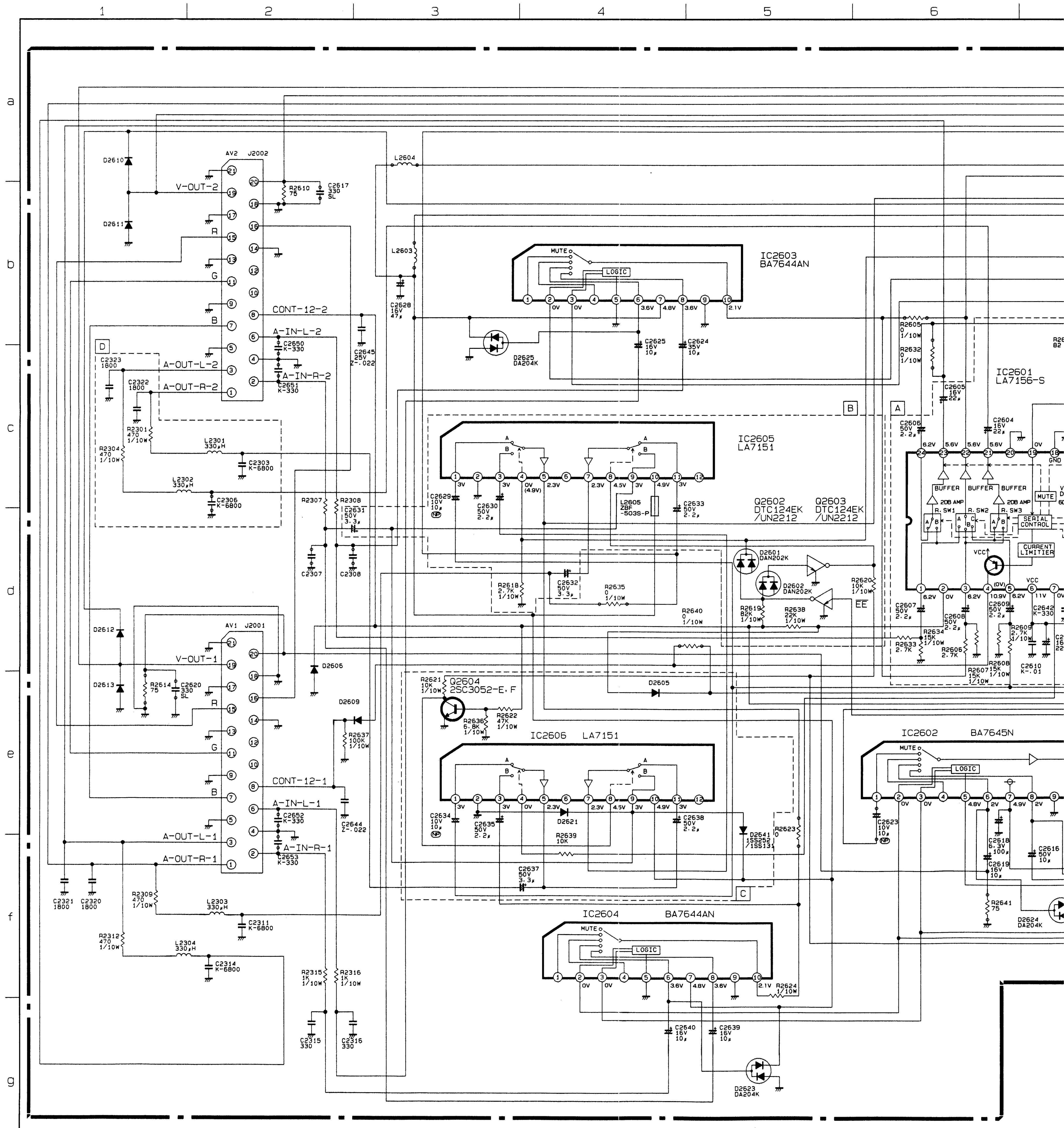
C3100	R3412	R3413
b-6	e-3	e-3
50v1µ(NP)	12K	12K
50v1µ	12K	12K
50v1µ(NP)	12K	12K
50v1µ	12K	12K
50v1µ(NP)	12K	12K
50v1µ	15K	15K
50v1µ	12K	12K

HS-651V(B) ⚠PCB-SAT



STBY5
L571 100μH
C575 6.3V 100μ
C576 Z-.01
IC571
M37470M4-526SP
N.C
I-CODE
RESET
VCC
SAT-CLK
SAT-DATA
O-CODE
O-LED1
O-LED2
V-REF
Xin
Xout
VSS
5V
4.9V
.1~3V
2.3V
1.7V
R571
X571 4.0MHZ
C573 18 CH
C574 18 CH
SS
SAT-CLK
SAT-DATA
GND
RESET
STBY5
SAT-REMO-R
SAT-REMO-F
LED-GND
N.C
R572 1.5 1/4W
C571 16V 470μ
C572 Z-.01
R573 10K
R575 390
R574 5.6
Q571 2SA952-K
0V
C581 16V 470μ
C582 Z-.01
R582 1.5 1/4W
R583 10K
R585 390
R584 5.6
Q581 2SA952-K

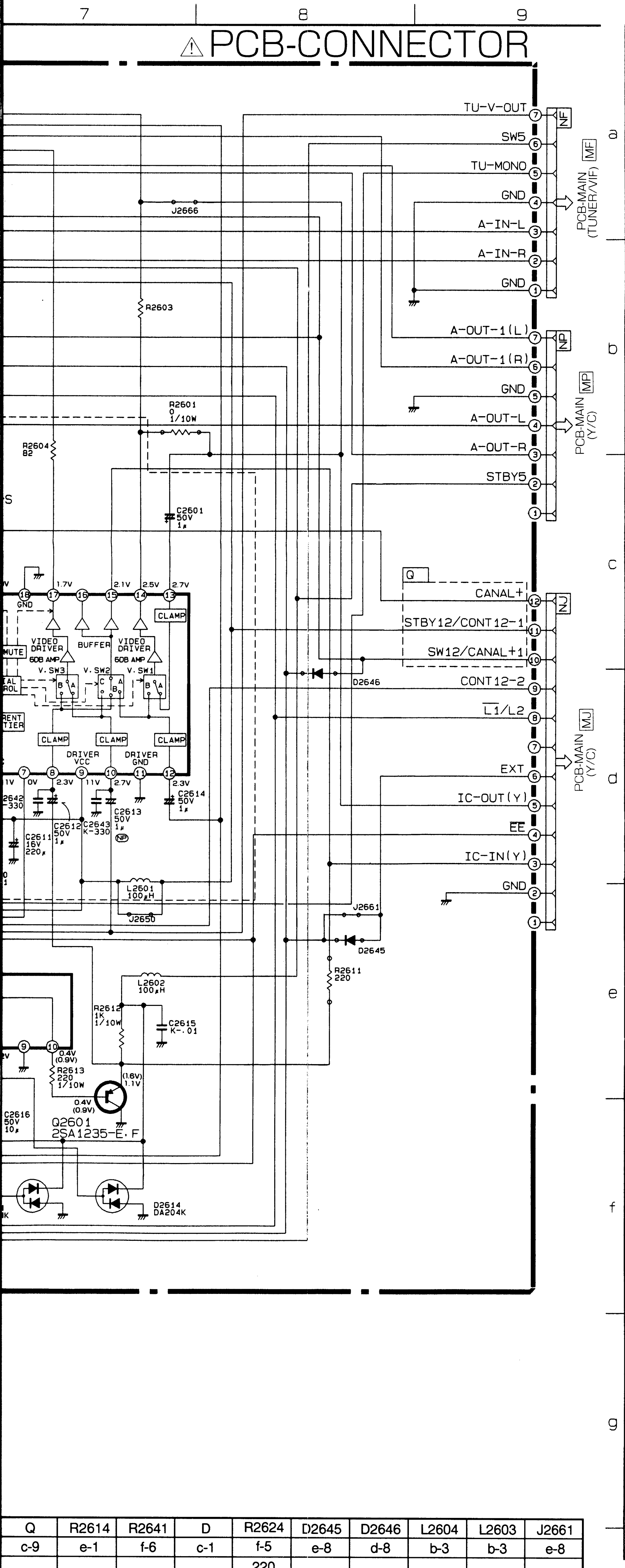
ed

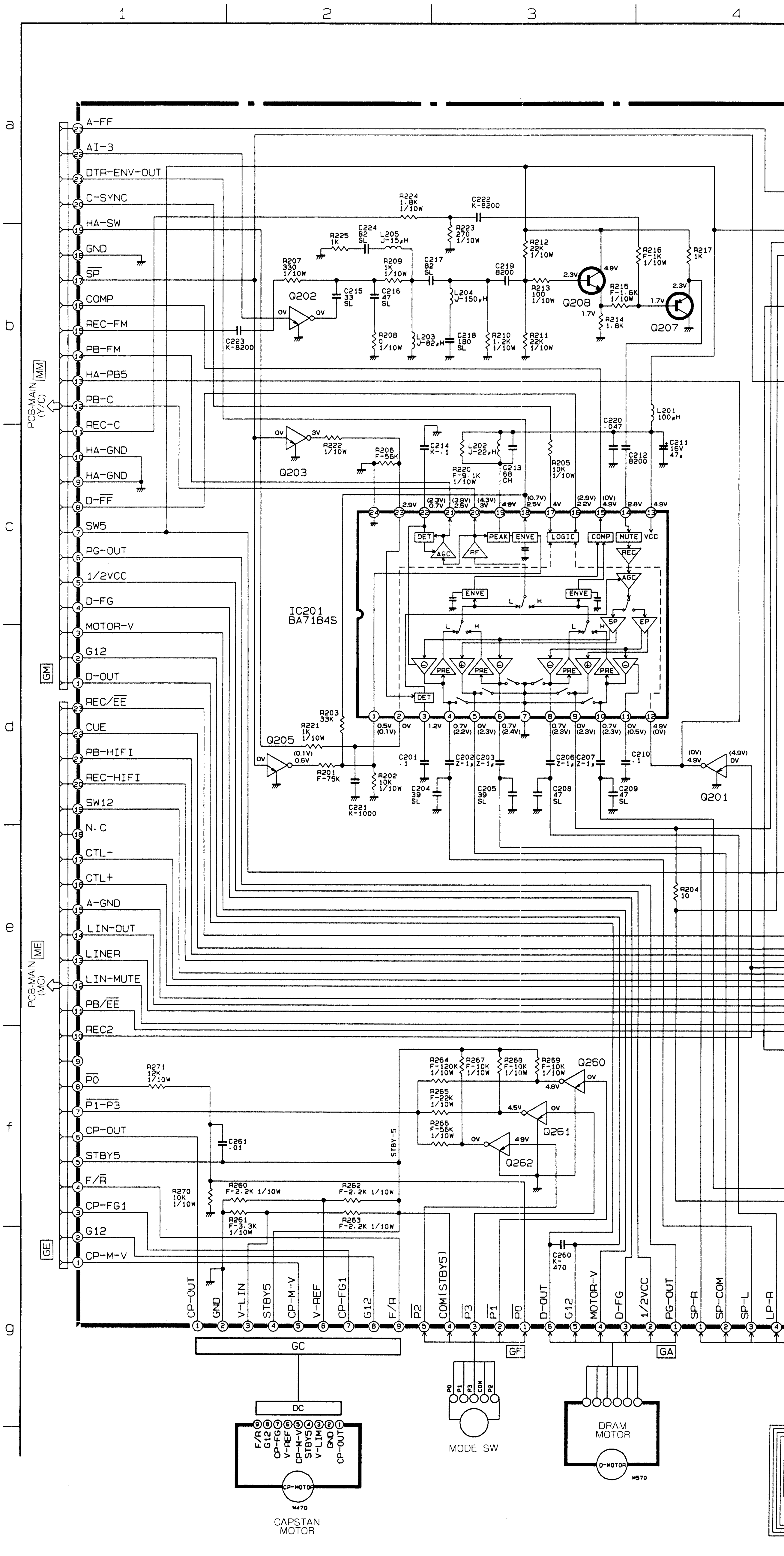

1
2
3
4
5
6
a
b
c
d
e
f
g
AV2 J2002
D2610
D2611
V-OUT-2
R
G
B
CONT-12-2
A-IN-L-2
A-OUT-L-2
A-IN-R-2
A-OUT-R-2
R2610 75
C2617 330 SL
L2604
L2603
C2628 16V 47μ
C2645 25V Z-.022
C2650 K-330
C2651 K-330
D
C2323 1800
C2322 1800
R2301 470 1/10W
R2304 470 1/10W
L2301 330μH
C2303 K-6800
L2302 330μH
C2306 K-6800
IC2603 BA7644AN
MUTE
LOGIC
0V
3.6V
4.8V
2.1V
C2625 16V 10μ
C2624 35V 10μ
D2625 DA204K
B
A
IC2605 LA7151
C2629 10V 10μ NP
C2630 50V 2.2μ
C2631 50V 3.3μ
L2605 ZBF -503S-P
C2633 50V 2.2μ
R2307
R2308
C2307
C2308
R2618 2.7K 1/10W
C2632 50V 3.3μ
R2635 0 1/10W
Q2602 DTC124EK /UN2212
Q2603 DTC124EK /UN2212
D2601 DAN202K
D2602 DAN202K
R2620 10K 1/10W
EE
R2619 82K 1/10W
R2638 22K 1/10W
R2640 0 1/10W
IC2601 LA7156-S
R2605 0 1/10W
R2632 0 1/10W
C2605 16V 22μ
C2606 50V 2.2μ
C2604 16V 22μ
6.2V
5.6V
0V
GND
BUFFER
20B AMP
R. SW1
R. SW2
R. SW3
MUTE
SERIAL CONTROL
CURRENT LIMITIER
VCC
(0V)
10.9V
11V
C2607 50V 2.2μ
C2608 50V 2.2μ
C2609 50V 2.2μ
C2642 K-330
R2634 15K 1/10W
R2633 2.7K
R2606 2.7K
R2609 2.7K 1/10W
R2607 15K 1/10W
R2608 15K 1/10W
C2610 K-.01
AV1 J2001
D2612
D2613
V-OUT-1
R2614 75
C2620 330 SL
CONT-12-1
A-IN-L-1
A-OUT-L-1
A-IN-R-1
A-OUT-R-1
C2652 K-330
C2653 K-330
C2644 Z-.022
D2606
D2609
R2637 100K 1/10W
R2621 10K 1/10W
Q2604 2SC3052-E, F
R2636 6.8K 1/10W
R2622 47K 1/10W
D2605
IC2606 LA7151
C2634 10V 10μ NP
C2635 50V 2.2μ
D2621
R2639 10K
C2638 50V 2.2μ
D2641 1SS252 /1SS133
R2623 0
C2637 50V 3.3μ
C
C2321 1800
C2320 1800
R2309 470 1/10W
L2303 330μH
C2311 K-6800
R2312 470 1/10W
L2304 330μH
C2314 K-6800
R2315 1K 1/10W
R2316 1K 1/10W
C2315 330
C2316 330
IC2604 BA7644AN
R2624 1/10W
C2640 16V 10μ
C2639 16V 10μ
D2623 DA204K
IC2602 BA7645N
C2623 10V 10μ NP
C2618 6.3V 100μ
C2619 16V 10μ
C2616 50V 10μ
R2641 75
D2624 DA204K

○ : Employed   × : Not Employed

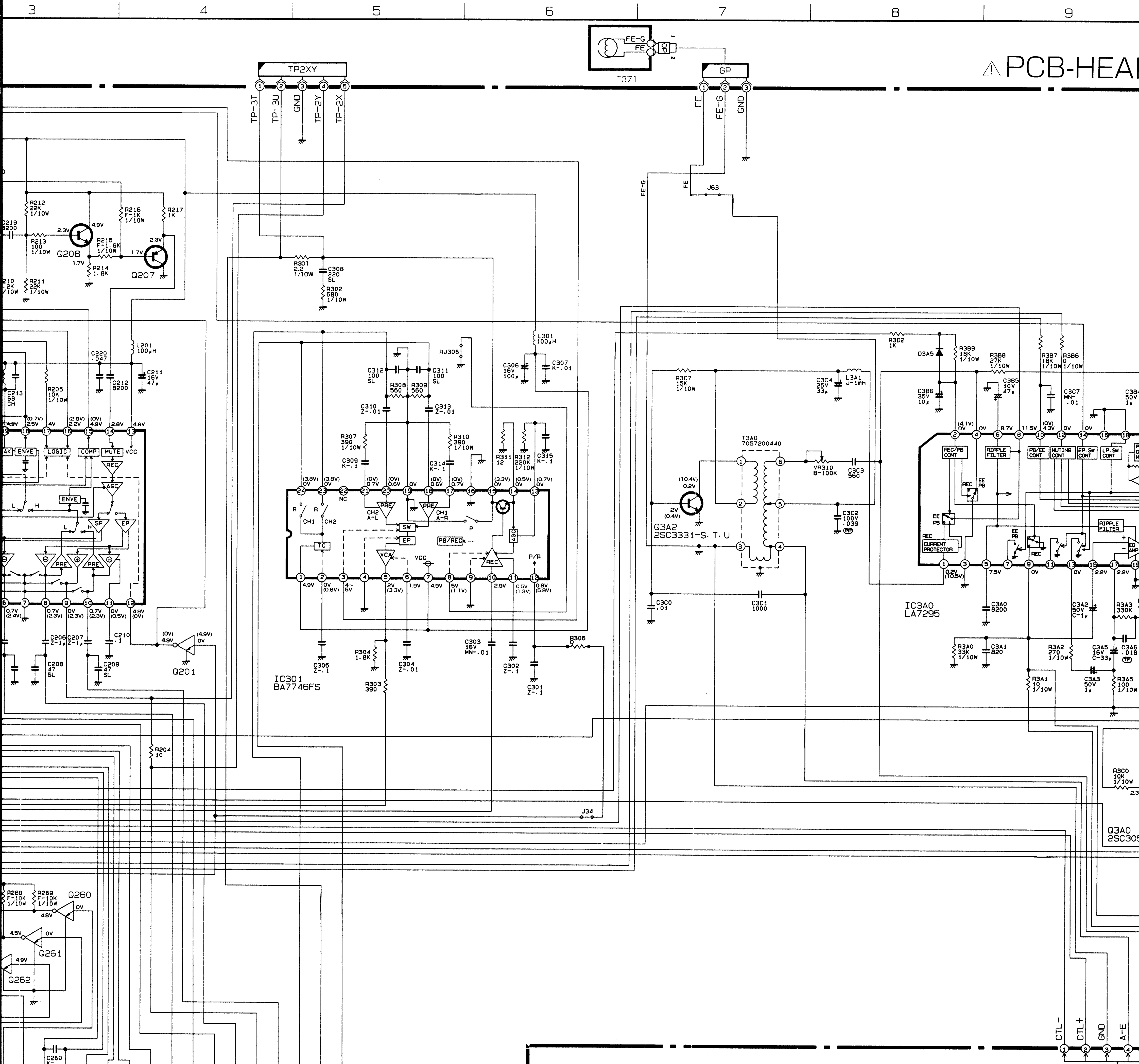
SYMBOL MODEL NAME / ADDRESS	A	B	C	R2603	R2601	R2605	R2632	R2623	C2620	C2617	R2635	R2611	R2307	C2307	R2308	C2308	J2666	J2650	R2640	R2623	Q
	c-6	c-5	e-5	b-7	b-8	b-6	c-6	e-6	e-6	b-2	d-4	e-8	d-2	d-2	d-3	d-3	a-7	e-7	d-4	f-5	c-
HS-651V (Y)/(E)/(G)	○	○	○	82	×	×	×	×	○	○	×	×	1.5k 1/10W	K-390	820 1/10W	K-470	×	×	×	×	○
HS-651V (B)/(IR)	×	×	×	0	○	○	○	○	×	×	○	○	1k 1/10W	K-330	1k 1/10W	K-330	○	○	○	○	×

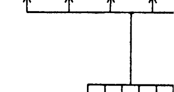
⚠PCB-CONNECTOR


7
8
9
a
b
c
d
e
f
g
TU-V-OUT
SW5
TU-MONO
GND
A-IN-L
A-IN-R
GND
NF
PCB-MAIN (TUNER/VIF)
MF
A-OUT-1(L)
A-OUT-1(R)
GND
A-OUT-L
A-OUT-R
STBY5
NP
PCB-MAIN (Y/C)
MP
Q
CANAL+
STBY12/CONT12-1
SW12/CANAL+1
CONT12-2
L1/L2
EXT
IC-OUT(Y)
EE
IC-IN(Y)
GND
NJ
PCB-MAIN (Y/C)
MJ
J2666
R2603
R2601 0 1/10W
R2604 82
C2601 50V 1μ
VIDEO DRIVER 6dB AMP
BUFFER
V.SW3
V.SW2
V.SW1
CLAMP
DRIVER VCC
DRIVER GND
C2614 50V 1μ
C2613 50V 1μ
C2612 50V 1μ
C2643 K-330
C2611 16V 220μ
L2601 100μH
J2650
J2661
D2646
D2645
R2611 220
L2602 100μH
R2612 1K 1/10W
C2615 K-.01
R2613 220 1/10W
Q2601 2SA1235-E.F
C2616 50V 10μ
D2614 DA204K


1
2
3
4
A-FF
AI-3
DTR-ENV-OUT
C-SYNC
HA-SW
GND
SP
COMP
REC-FM
PB-FM
HA-PB5
PB-C
REC-C
HA-GND
HA-GND
D-FF
SW5
PG-OUT
1/2VCC
D-FG
MOTOR-V
G12
D-OUT
GM
PCB-MAIN (Y/C)
MM
REC/EE
CUE
PB-HIFI
REC-HIFI
SW12
N.C
CTL-
CTL+
A-GND
LIN-OUT
LINER
LIN-MUTE
PB/EE
REC2
PCB-MAIN (MC)
ME
P0
P1-P3
CP-OUT
STBY5
F/R
CP-FG1
G12
CP-M-V
GE
IC201 BA7184S
Q201
Q202
Q203
Q205
Q207
Q208
Q260
Q261
Q262
CP-OUT
GND
V-LIN
STBY5
CP-M-V
V-REF
CP-FG1
G12
F/R
GC
P2
COM(STBY5)
P3
P1
P0
GF
D-OUT
G12
MOTOR-V
D-FG
1/2VCC
PG-OUT
GA
SP-R
SP-COM
SP-L
LP-R
DC
CP-MOTOR
M470
CAPSTAN MOTOR
MODE SW
DRAM MOTOR
D-MOTOR
M570

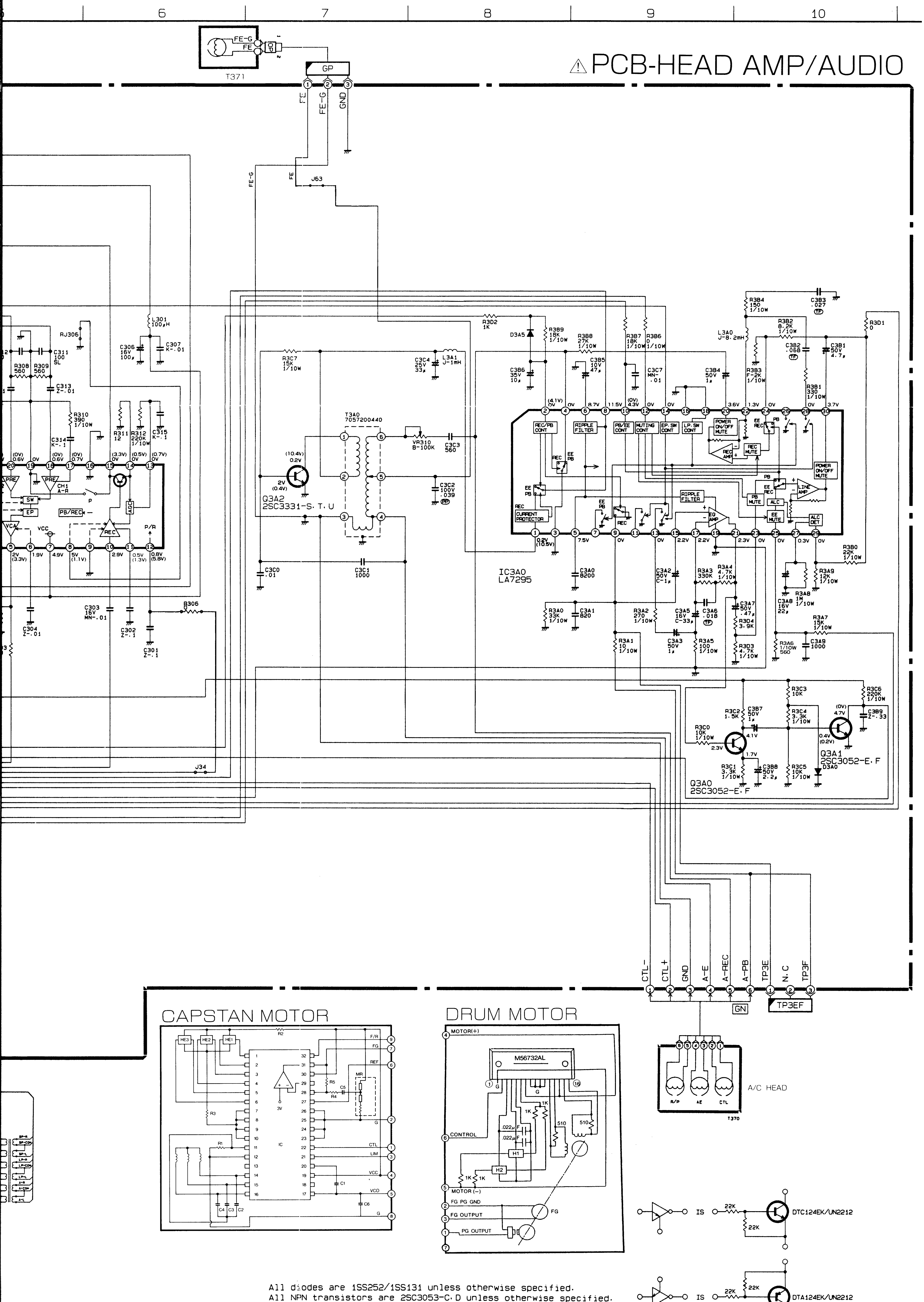
Q	R2614	R2641	D	R2624	D2645	D2646	L2604	L2603	J2661
c-9	e-1	f-6	c-1	f-5	e-8	d-8	b-3	b-3	e-8
○	×	○	○	220 1/10W	○	○	×	100 μ	×
×	○	×	×	0 1/10W	×	×	100 μ	×	○


3
4
5
6
7
8
9
⚠PCB-HEA
TP2XY
TP-3T
TP-3U
GND
TP-2Y
TP-2X
FE-G
FE
T371
GP
FE
FE-G
GND
J63
R212 22K 1/10W
R216 F-1K 1/10W
R217 1K
C219 8200
R213 100 1/10W
Q208
R215 F-1.6K 1/10W
R214 1.8K
Q207
R211 22K 1/10W
R301 2.2 1/10W
C308 220 SL
R302 680 1/10W
L201 100μH
C220 .047
C212 8200
C211 16V 47μ
C213 68 CH
R205 10K 1/10W
ENVE
LOGIC
COMP
MUTE
VCC
REC
AGC
PRE
SP
EP
C206 Z-1μ
C207 Z-1μ
C208 47 SL
C209 47 SL
C210 .1
Q201
R204 10
C312 100 SL
C311 100 SL
RJ306
R308 560
R309 560
C310 Z-.01
C313 Z-.01
R307 390 1/10W
R310 390 1/10W
C309 K-.1
C314 K-.1
R311 12
R312 220K 1/10W
C315 K-.1
L301 100μH
C306 16V 100μ
C307 K-.01
CH1
CH2
NC
SW
TC
VCA
PB/REC
P/R
C305 Z-.1
R304 1.8K
C304 Z-.01
C303 16V MN-.01
C302 Z-.1
C301 Z-.1
R306
R303 390
IC301 BA7746FS
J34
R3C7 15K 1/10W
C3C4 25V 33μ
L3A1 J-1mH
T3A0 7057200440
VR310 B-100K
C3C3 560
C3C2 100V .039
Q3A2 2SC3331-S.T.U
C3C0 .01
C3C1 1000
R3D2 1K
D3A5
R3B9 18K 1/10W
R3B8 27K 1/10W
C3B6 35V 10μ
C3B5 10V 47μ
R3B7 18K 1/10W
R3B6 0 1/10W
C3C7 MN-.01
REC/PB CONT
RIPPLE FILTER
PB/EE CONT
MUTING CONT
EP.SW CONT
LP.SW CONT
CURRENT PROTECTOR
EQ AMP
IC3A0 LA7295
C3A0 8200
R3A0 33K 1/10W
C3A1 820
R3A2 270 1/10W
C3A2 50V C-1μ
R3A3 330K
C3A5 16V C-33μ
C3A6 .018
C3A3 50V 1μ
R3A5 100 1/10W
R3A1 10 1/10W
R3C0 10K 1/10W
Q3A0 2SC30
R268 F-10K 1/10W
R269 F-10K 1/10W
Q260
Q261
Q252
C260 K-470
PO
D-OUT
G12
MOTOR-V
D-FG
1/2VCC
PG-OUT
SP-R
SP-COM
SP-L
LP-R
LP-COM
LP-L
A-R
A-COM
A-L
GF
GA
GB
DRAM MOTOR
D-MOTOR
M570
CTL-
CTL+
GND
A-E
CAPSTAN MOTOR
HE3
HE2
HE1
F/R
FG
REF
MR
IC
CTL
LIM
VCC
VCO
G
DRUM MOTOR
MOTOR(+)
M56732AL
CONTROL
MOTOR(-)
FG PG GND
FG OUTPUT
PG OUTPUT
H1
H2
IS

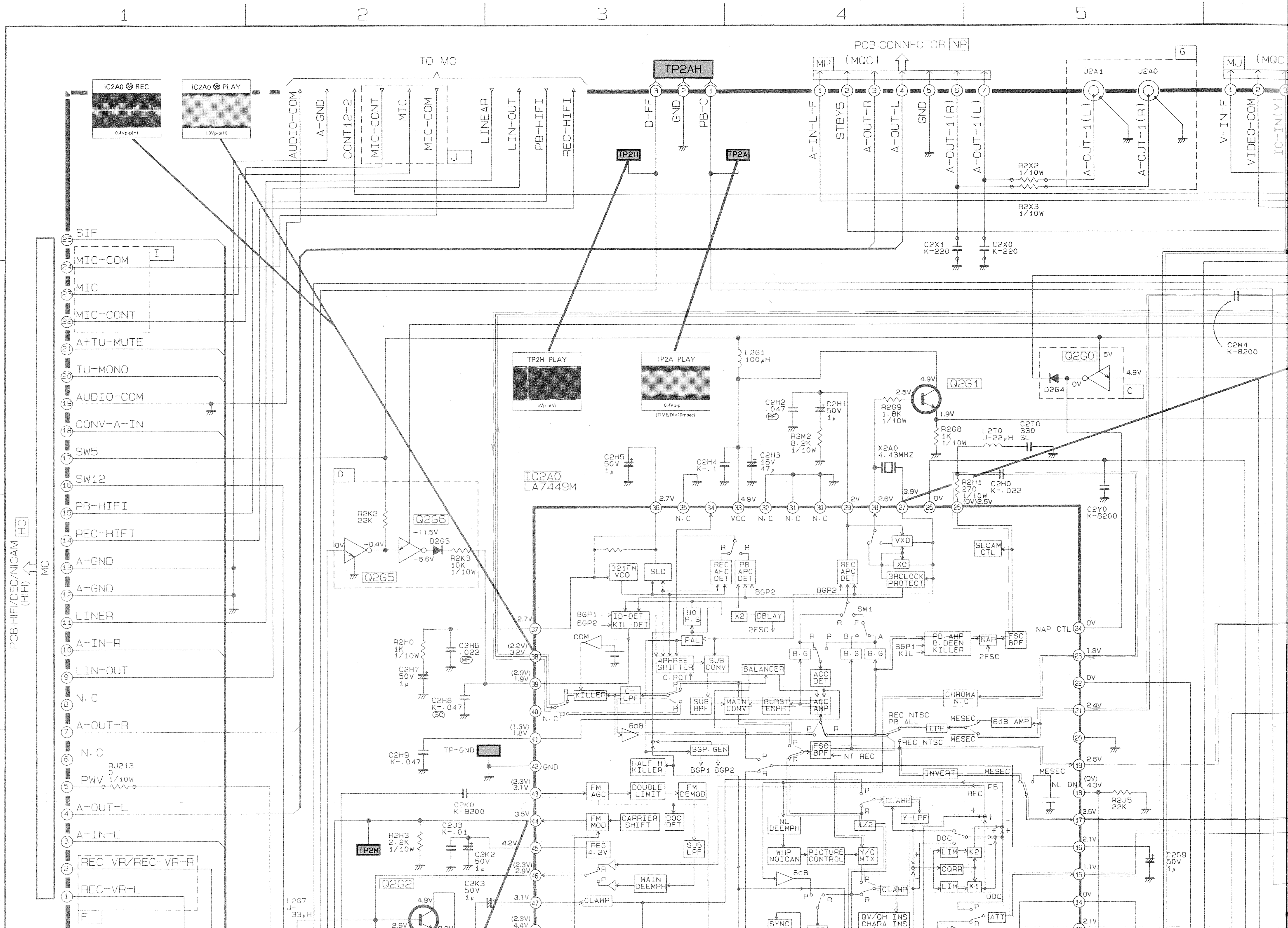


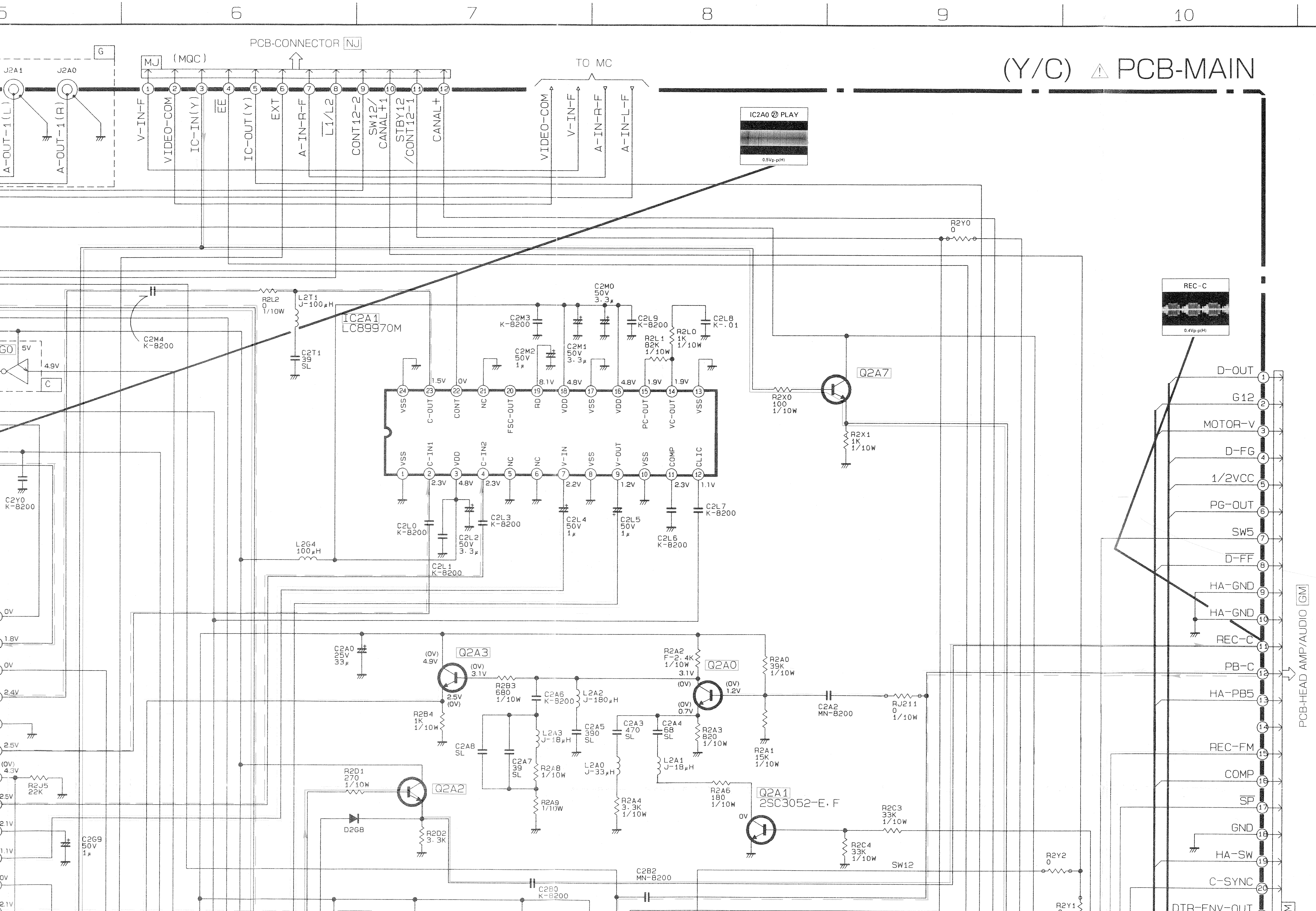
All diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3053-C.D unless otherwise specified.
All PNP transistors are 2SA1235-E.F unless otherwise specified.

⚠PCB-HEAD AMP/AUDIO


6
7
8
9
10
T371
FE-G
FE
GP
GND
J63
L301 100µH
C306 16V 100µ
C307 K-.01
RJ306
C311 100 SL
R308 560
R309 560
C313 Z-.01
R310 390 1/10W
C314 K-.1
R311 12
R312 220K 1/10W
C315 K-.1
PRE
CH1 A-R
SW
EP
PB/REC
AGC
VCA
VCC
REC
P/R
C303 16V MN-.01
C304 Z-.01
C302 Z-.1
C301 Z-.1
R306
J34
R3C7 15K 1/10W
C3C4 25V 33µ
L3A1 J-1mH
T3A0 7057200440
VR310 B-100K
C3C3 560
C3C2 100V .039
Q3A2 2SC3331-S.T.U
C3C0 .01
C3C1 1000
R3D2 1K
D3A5
R3B9 18K 1/10W
R3B8 27K 1/10W
C3B6 35V 10µ
C3B5 10V 47µ
R3B7 18K 1/10W
R3B6 0 1/10W
C3C7 MN-.01
C3B4 50V 1µ
L3A0 J-8.2mH
R3B4 150 1/10W
C3B3 .027
R3B2 8.2K 1/10W
C3B2 .068
C3B1 50V 4.7µ
R3B3 F-2K 1/10W
R3B1 330 1/10W
R3D1 0
REC/PB CONT
RIPPLE FILTER
PB/EE CONT
MUTING CONT
EP.SW CONT
LP.SW CONT
POWER ON/OFF MUTE
REC AMP
REC MUTE
LINE AMP
CURRENT PROTECTOR
EQ AMP
PB MUTE
ALC
EE MUTE
ALC DET
IC3A0 LA7295
C3A0 8200
R3A0 33K 1/10W
C3A1 820
R3A2 270 1/10W
C3A2 50V C-1µ
R3A3 330K
R3A4 4.7K 1/10W
C3A5 16V C-33µ
C3A6 .018
C3A7 50V .47µ
R304 3.9K
R3A1 10 1/10W
C3A3 50V 1µ
R3A5 100 1/10W
R3D3 4.7K 1/10W
C3A8 16V 22µ
R3A8 1M 1/10W
R3A9 12K 1/10W
R3B0 22K 1/10W
R3A7 15K 1/10W
R3A6 1/10W 560
C3A9 1000
R3C3 10K
R3C6 220K 1/10W
R3C2 1.5K
C3B7 50V 1µ
R3C4 3.3K 1/10W
C3B9 Z-.33
R3C0 10K 1/10W
Q3A1 2SC3052-E.F
D3A0
R3C1 3.3K 1/10W
C3B8 50V 2.2µ
R3C5 10K 1/10W
Q3A0 2SC3052-E.F
CTL-
CTL+
GND
A-E
A-REC
A-PB
TP3E
N.C
TP3F
GN
TP3EF
A/C HEAD
R/P
AE
CTL
T370
CAPSTAN MOTOR
HE3
HE2
HE1
R2
R3
R1
R4
R5
C5
MR
IC
3V
C4
C3
C2
C1
C6
F/R
FG
REF
CTL
LIM
VCC
VCO
G
DRUM MOTOR
MOTOR(+)
M56732AL
CONTROL
MOTOR(-)
FG PG GND
FG OUTPUT
PG OUTPUT
H1
H2
510
FG
IS
22K
DTC124EK/UN2212
DTA124EK/UN2212

All diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3053-C.D unless otherwise specified.
All PNP transistors are 2SA1235-E.F unless otherwise specified.

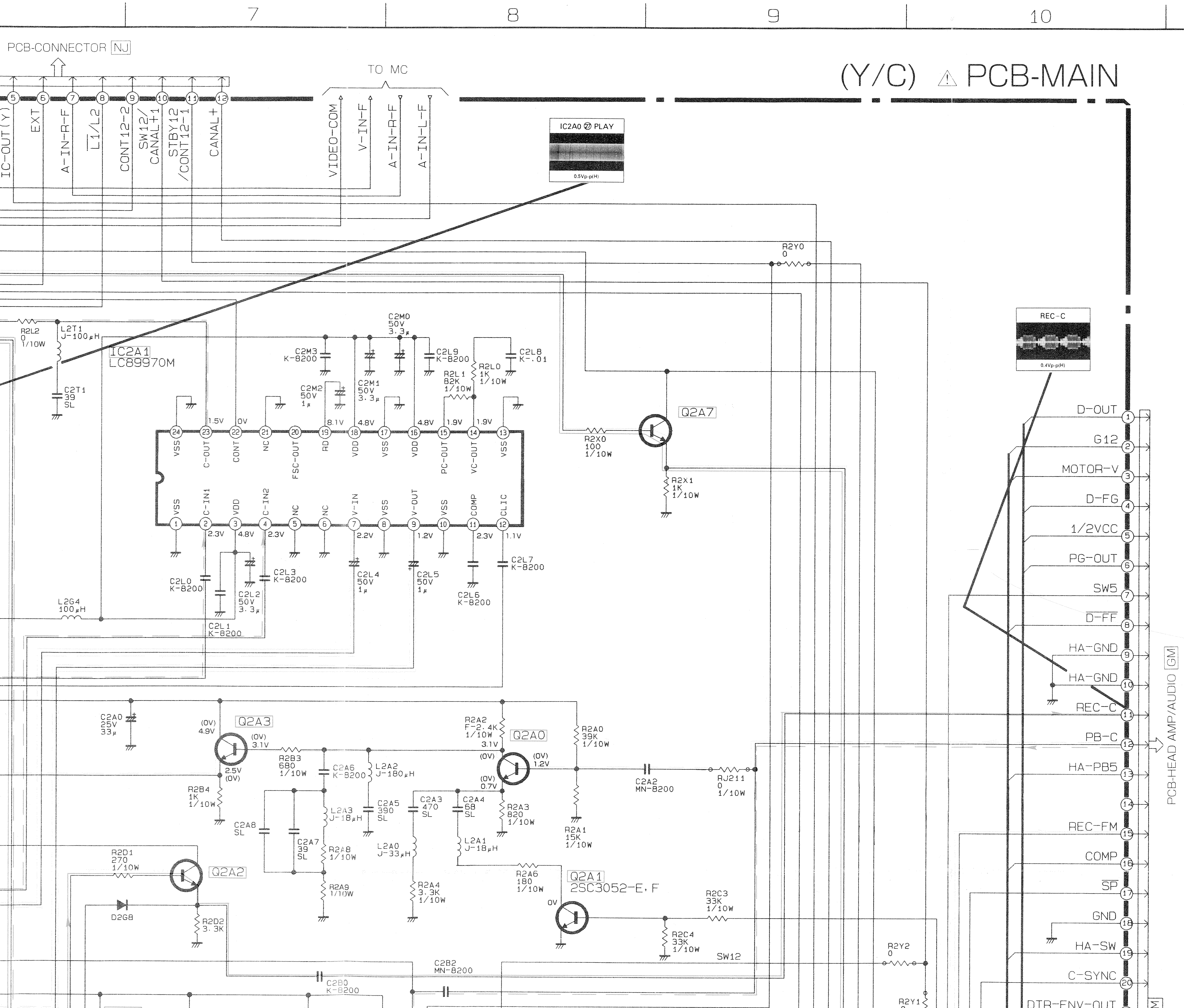

1
2
3
4
5
a
b
c
d
TO MC
IC2A0 ㊳ REC
0.4Vp-p(H)
IC2A0 ㊳ PLAY
1.0Vp-p(H)
AUDIO-COM
A-GND
CONT12-2
MIC-CONT
MIC
MIC-COM
J
LINEAR
LIN-OUT
PB-HIFI
REC-HIFI
TP2AH
D-FF
GND
PB-C
TP2H
TP2A
PCB-CONNECTOR NP
MP
(MQC)
A-IN-L-F
STBY5
A-OUT-R
A-OUT-L
GND
A-OUT-1(R)
A-OUT-1(L)
G
J2A1
J2A0
A-OUT-1(L)
A-OUT-1(R)
R2X2 1/10W
R2X3 1/10W
C2X1 K-220
C2X0 K-220
MJ
(MQC
V-IN-F
VIDEO-COM
IC-IN(Y)
SIF
MIC-COM
I
MIC
MIC-CONT
A+TU-MUTE
TU-MONO
AUDIO-COM
CONV-A-IN
SW5
SW12
PB-HIFI
REC-HIFI
A-GND
A-GND
LINER
A-IN-R
LIN-OUT
N.C
A-OUT-R
N.C
PWV
RJ213 0 1/10W
A-OUT-L
A-IN-L
REC-VR/REC-VR-R
REC-VR-L
F
PCB-HIFI/DEC/NICAM (HIFI)
MC
HC
TP2H PLAY
5Vp-p(V)
TP2A PLAY
0.4Vp-p
(TIME/DIV10msec)
L2G1 100μH
C2H2 .047 MF
C2H1 50V 1μ
R2M2 8.2K 1/10W
C2H5 50V 1μ
C2H4 K-.1
C2H3 16V 47μ
IC2A0
LA7449M
Q2G1
4.9V
2.5V
1.9V
R2G9 1.8K 1/10W
R2G8 1K 1/10W
L2T0 J-22μH
C2T0 330 SL
X2A0 4.43MHZ
R2H1 270 1/10W
C2H0 K-.022
C2Y0 K-8200
Q2G0
5V
4.9V
0V
D2G4
C
C2M4 K-8200
D
R2K2 22K
Q2G6
-11.5V
D2G3
-0.4V
-5.6V
R2K3 10K 1/10W
Q2G5
2.7V
4.9V
VCC
N.C
N.C
N.C
2V
2.6V
3.9V
0V
(0V)2.5V
SLD
321FM VCO
REC AFC DET
PB APC DET
REC APC DET
VXO
XO
3RCLOCK PROTECT
SECAM CTL
BGP2
BGP1
ID-DET
KIL-DET
90 P.S
X2
DBLAY
2FSC
SW1
PAL
4PHASE SHIFTER
SUB CONV
C.ROT
BALANCER
B.G
B.G
B.G
PB.AMP B.DEEN KILLER
NAP
FSC BPF
KIL
ACC DET
KILLER
C-LPF
SUB BPF
MAIN CONV
BURST ENPH
ACC AMP
CHROMA N.C
REC NTSC PB ALL
MESEC
6dB AMP
LPF
REC NTSC
6dB
BGP.GEN
FSC BPF
NT REC
HALF H KILLER
INVERT
MESEC
NAP CTL
1.8V
2.4V
2.5V
NL ON
(0V) 4.3V
R2J5 22K
2.1V
1.1V
C2G9 50V 1μ
COM
R2H0 1K 1/10W
C2H6 .022 MF
C2H7 50V 1μ
(2.2V) 3.2V
(2.9V) 1.9V
C2H8 K-.047 SC
N.C
(1.3V) 1.8V
C2H9 K-.047
TP-GND
GND
(2.3V) 3.1V
C2K0 K-8200
3.5V
FM AGC
DOUBLE LIMIT
FM DEMOD
FM MOD
CARRIER SHIFT
DOC DET
REG 4.2V
SUB LPF
MAIN DEEMPH
CLAMP
TP2M
R2H3 2.2K 1/10W
C2J3 K-.01
C2K2 50V 1μ
4.2V
(2.3V) 2.9V
Q2G2
C2K3 50V 1μ
4.9V
2.9V
3.1V
(2.3V) 4.4V
L2G7 J-33μH
NL DEEMPH
WHP NOICAN
PICTURE CONTROL
Y/C MIX
1/2
CLAMP
Y-LPF
PB
REC
DOC
LIM
K2
CQRR
LIM
K1
DOC
ATT
CLAMP
QV/QH INS CHARA INS
SYNC
6dB


5
6
7
8
9
10
(Y/C) ⚠ PCB-MAIN
PCB-CONNECTOR NJ
MJ (MQC)
G
J2A1
J2A0
A-OUT-1(L)
A-OUT-1(R)
V-IN-F
VIDEO-COM
IC-IN(Y)
EE
IC-OUT(Y)
EXT
A-IN-R-F
L1/L2
CONT12-2
SW12/CANAL+1
STBY12/CONT12-1
CANAL+
TO MC
VIDEO-COM
V-IN-F
A-IN-R-F
A-IN-L-F
IC2A0 ㉗ PLAY
0.5Vp-p(H)
REC-C
0.4Vp-p(H)
IC2A1
LC89970M
VSS
C-OUT
CONT
NC
FSC-OUT
RD
VDD
VSS
VDD
PC-OUT
VC-OUT
VSS
VSS
C-IN1
VDD
C-IN2
NC
NC
V-IN
VSS
V-OUT
VSS
COMP
CLIC
1.5V
0V
8.1V
4.8V
4.8V
1.9V
1.9V
2.3V
4.8V
2.3V
2.2V
1.2V
2.3V
1.1V
R2L2 0 1/10W
L2T1 J-100μH
C2T1 39 SL
C2M4 K-8200
C2M0 50V 3.3μ
C2M3 K-8200
C2M2 50V 1μ
C2M1 50V 3.3μ
C2L9 K-8200
C2L8 K-.01
R2L0 1K 1/10W
R2L1 82K 1/10W
C2L0 K-8200
C2L1 K-8200
C2L2 50V 3.3μ
C2L3 K-8200
C2L4 50V 1μ
C2L5 50V 1μ
C2L6 K-8200
C2L7 K-8200
L2G4 100μH
C2Y0 K-8200
R2Y0 0
Q2A7
R2X0 100 1/10W
R2X1 1K 1/10W
Q2A3
Q2A0
Q2A2
Q2A1
2SC3052-E, F
C2A0 25V 33μ
R2B3 680 1/10W
R2B4 1K 1/10W
C2A6 K-8200
L2A2 J-180μH
L2A3 J-18μH
C2A5 390 SL
C2A3 470 SL
C2A4 68 SL
C2A8 SL
C2A7 39 SL
R2A8 1/10W
R2A9 1/10W
L2A0 J-33μH
R2A4 3.3K 1/10W
L2A1 J-18μH
R2A2 F-2.4K 1/10W
R2A3 820 1/10W
R2A0 39K 1/10W
R2A1 15K 1/10W
C2A2 MN-8200
RJ211 0 1/10W
R2A6 180 1/10W
R2C3 33K 1/10W
R2C4 33K 1/10W
SW12
R2D1 270 1/10W
D2G8
R2D2 3.3K
C2G9 50V 1μ
R2J5 22K
C2B2 MN-8200
C2B0 K-8200
R2Y2 0
R2Y1
(0V) 4.9V
(0V) 3.1V
2.5V (0V)
3.1V
(0V)
(0V) 1.2V
(0V) 0.7V
0V
5V
4.9V
C
G0
0V
1.8V
0V
2.4V
2.5V
(0V) 4.3V
2.5V
2.1V
1.1V
0V
2.1V
D-OUT
G12
MOTOR-V
D-FG
1/2VCC
PG-OUT
SW5
D-FF
HA-GND
HA-GND
REC-C
PB-C
HA-PB5
REC-FM
COMP
SP
GND
HA-SW
C-SYNC
DTR-ENV-OUT
PCB-HEAD AMP/AUDIO GM

○ : Employed

	Y
C (b-5)	○
D (c-2)	×
E (e-7)	×
F (d-1)	×
G (a-5)	○
H (f-1)	×
I (b-1)	×
J (a-2)	×
R2X2(a-5)	1K
R2X3(a-5)	1K
C2X0(a-5)	○
C2X1(a-5)	○
C2A8(d-7)	33
C2K5(e-2)	18
R2A8(d-7)	33
R2A9(d-7)	22
RJ213(d-1)	×
R2Y0(b-9)	○
R2Y1(d-9)	○
R2Y2(d-9)	×
R2K9(e-9)	○

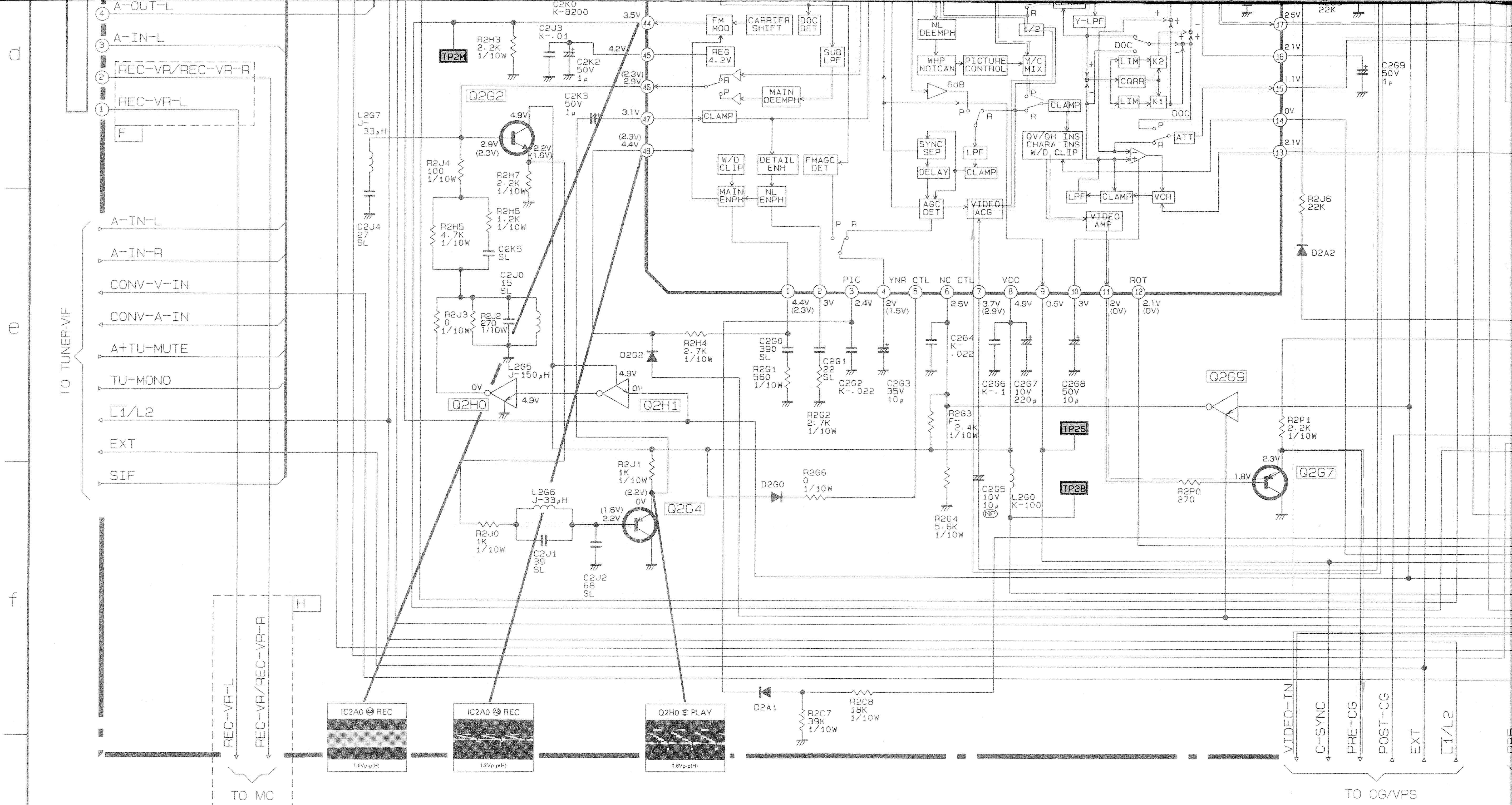
(Y/C) ⚠ PCB-MAIN



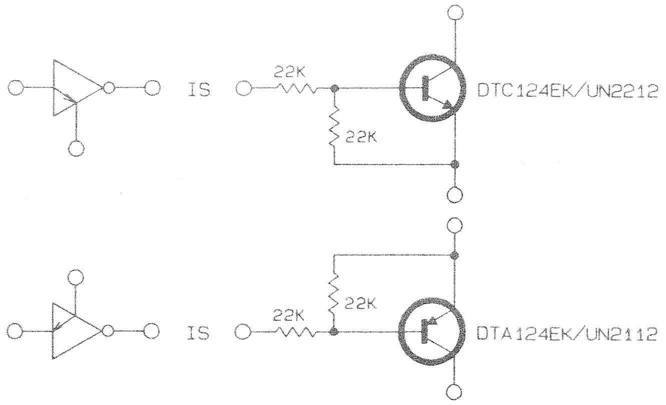
7
8
9
10
11
PCB-CONNECTOR NJ
IC-OUT(Y)
EXT
A-IN-R-F
L1/L2
CONT12-2
SW12/ CANAL+1
STBY12 /CONT12-1
CANAL+
TO MC
VIDEO-COM
V-IN-F
A-IN-R-F
A-IN-L-F
IC2A0 ㉗ PLAY
0.5Vp-p(H)
REC-C
0.4Vp-p(H)
R2L2 0 1/10W
L2T1 J-100μH
C2T1 39 SL
IC2A1 LC89970M
C2M0 50V 3.3μ
C2M3 K-8200
C2M2 50V 1μ
C2M1 50V 3.3μ
C2L9 K-8200
R2L1 82K 1/10W
R2L0 1K 1/10W
C2L8 K-.01
VSS
C-OUT
CONT
NC
FSC-OUT
RD
VDD
VSS
VDD
PC-OUT
VC-OUT
VSS
C-IN1
VDD
C-IN2
NC
NC
V-IN
VSS
V-OUT
VSS
COMP
CLIC
1.5V
0V
8.1V
4.8V
4.8V
1.9V
1.9V
2.3V
4.8V
2.3V
2.2V
1.2V
2.3V
1.1V
C2L0 K-8200
C2L1 K-8200
C2L2 50V 3.3μ
C2L3 K-8200
C2L4 50V 1μ
C2L5 50V 1μ
C2L6 K-8200
C2L7 K-8200
L2G4 100μH
R2Y0 0
R2X0 100 1/10W
Q2A7
R2X1 1K 1/10W
C2A0 25V 33μ
Q2A3
(0V) 4.9V
(0V) 3.1V
2.5V (0V)
R2B3 680 1/10W
R2B4 1K 1/10W
C2A6 K-8200
L2A2 J-180μH
R2A2 F-2.4K 1/10W
3.1V
(0V)
Q2A0
(0V) 1.2V
(0V) 0.7V
R2A0 39K 1/10W
C2A2 MN-8200
RJ211 0 1/10W
R2A1 15K 1/10W
C2A8 SL
C2A7 39 SL
L2A3 J-18μH
C2A5 390 SL
C2A3 470 SL
C2A4 68 SL
R2A3 820 1/10W
R2A8 1/10W
L2A0 J-33μH
L2A1 J-18μH
R2A9 1/10W
R2A4 3.3K 1/10W
R2A6 180 1/10W
Q2A1 2SC3052-E,F
0V
R2C3 33K 1/10W
R2C4 33K 1/10W
SW12
R2D1 270 1/10W
Q2A2
D2G8
R2D2 3.3K
C2B2 MN-8200
C2B0 K-8200
R2Y2 0
R2Y1 0
D-OUT
G12
MOTOR-V
D-FG
1/2VCC
PG-OUT
SW5
D-FF
HA-GND
HA-GND
REC-C
PB-C
HA-PB5
REC-FM
COMP
SP
GND
HA-SW
C-SYNC
DTR-ENV-OUT
PCB-HEAD AMP/AUDIO GM

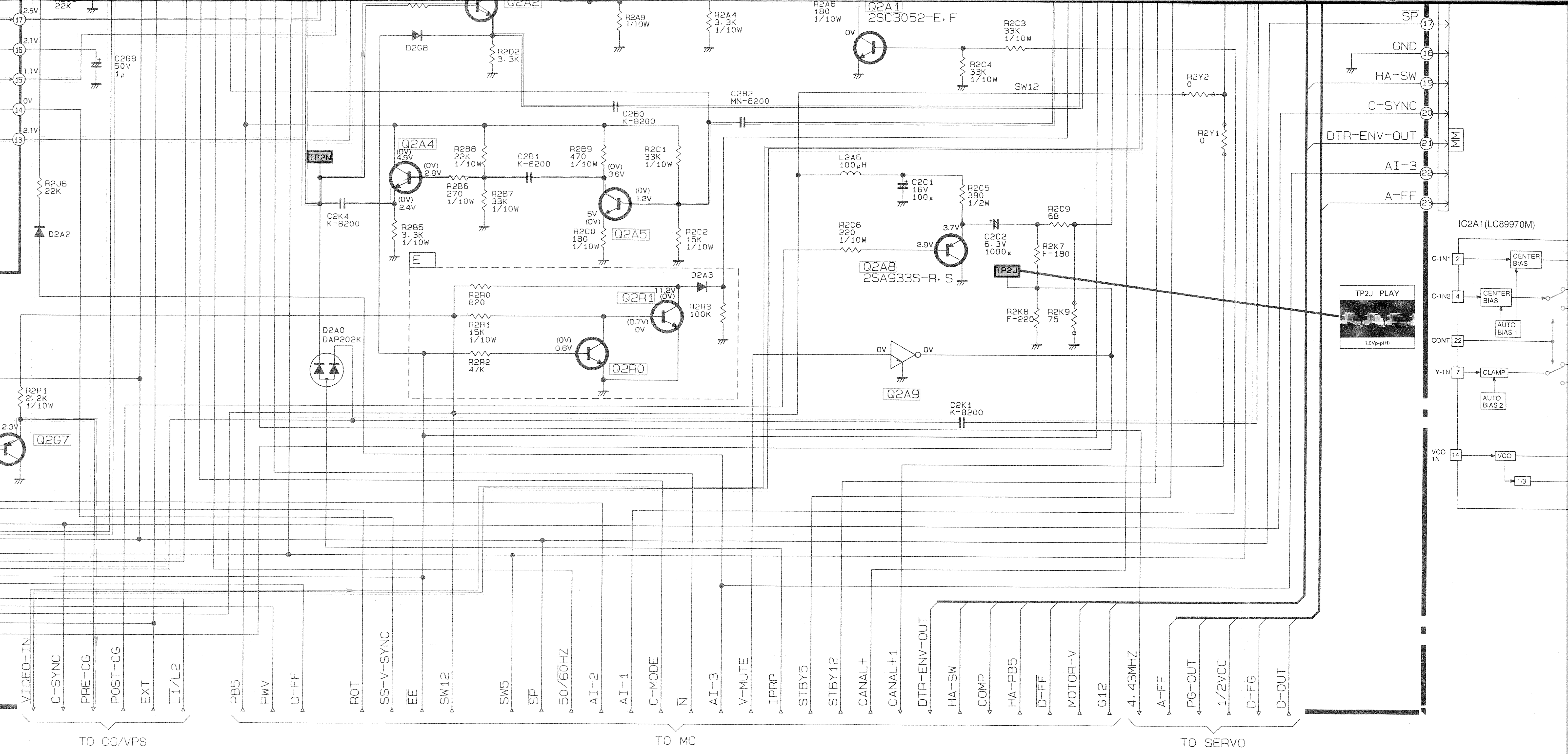
○ : Employed ╳ : Not Employed

	Y	B	E	IR	G	A	NZ
C (b-5)	○	╳	○	○	○	○	○
D (c-2)	╳	○	╳	╳	╳	╳	╳
E (e-7)	╳	○	╳	○	╳	╳	╳
F (d-1)	╳	╳	╳	╳	╳	╳	╳
G (a-5)	○	○	○	○	○	╳	╳
H (f-1)	╳	╳	╳	╳	╳	╳	╳
I (b-1)	╳	╳	╳	╳	╳	╳	╳
J (a-2)	╳	╳	╳	╳	╳	╳	╳
R2X2(a-5)	1K	←	←	←	←	╳	╳
R2X3(a-5)	1K	←	←	←	←	╳	╳
C2X0(a-5)	○	○	○	○	○	╳	╳
C2X1(a-5)	○	○	○	○	○	╳	╳
C2A8(d-7)	33	18	33	18	33	←	←
C2K5(e-2)	180	220	180	220	180	←	←
R2A8(d-7)	330	300-F	330	300-F	330	←	←
R2A9(d-7)	220	390	220	390	220	←	←
RJ213(d-1)	╳	○	○	○	╳	╳	○
R2Y0(b-9)	○	╳	○	╳	○	╳	╳
R2Y1(d-9)	○	╳	○	╳	○	╳	╳
R2Y2(d-9)	╳	○	╳	○	╳	╳	╳
R2K9(e-9)	○	╳	○	╳	○	╳	╳

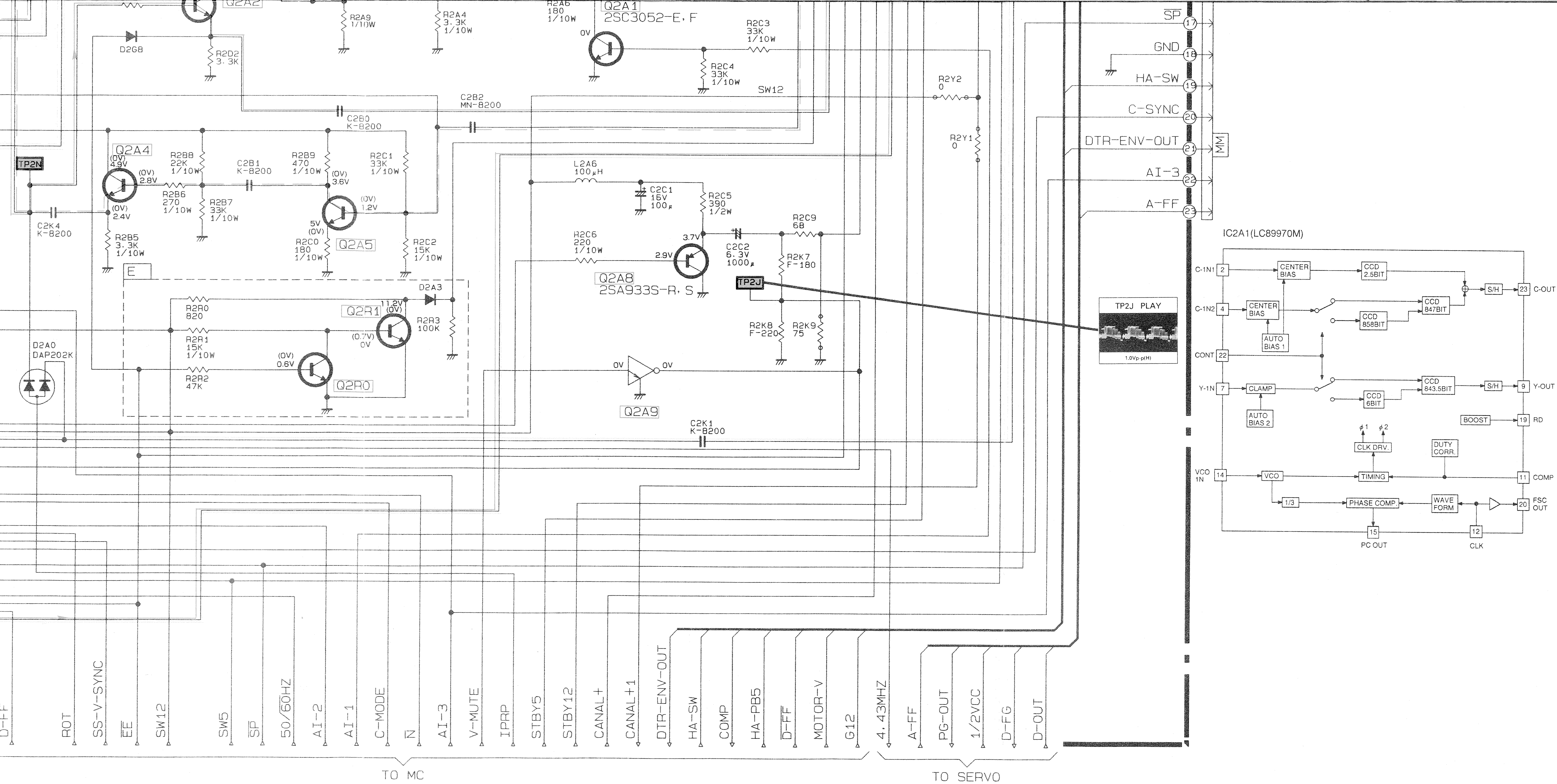

d
e
f
g
A-OUT-L
A-IN-L
REC-VR/REC-VR-R
REC-VR-L
F
A-IN-L
A-IN-R
CONV-V-IN
CONV-A-IN
A+TU-MUTE
TU-MONO
L1/L2
EXT
SIF
TO TUNER-VIF
H
REC-VR-L
REC-VR/REC-VR-R
TO MC
TP2M
Q2G2
Q2H0
Q2H1
Q2G4
Q2G9
Q2G7
TP2S
TP2B
FM MOD
CARRIER SHIFT
DOC DET
REG 4.2V
SUB LPF
MAIN DEEMPH
CLAMP
W/D CLIP
DETAIL ENH
FMAGC DET
MAIN ENPH
NL ENPH
NL DEEMPH
WHP NOICAN
PICTURE CONTROL
Y/C MIX
Y-LPF
1/2
6dB
SYNC SEP
DELAY
LPF
AGC DET
VIDEO ACG
QV/QH INS CHARA INS W/D CLIP
LIM
CQRR
K1
K2
DOC
ATT
VCR
VIDEO AMP
PIC
YNR CTL
NC CTL
VCC
ROT
D2G2
D2G0
D2A1
D2A2
IC2A0 44 REC
1.0Vp-p(H)
IC2A0 48 REC
1.2Vp-p(H)
Q2H0 E PLAY
0.6Vp-p(H)
VIDEO-IN
C-SYNC
PRE-CG
POST-CG
EXT
L1/L2
TO CG/VPS

All diodes are 1SS252/1SS131OM unless otherwise specified.
All NPN transistors are 2SC3053-C,D unless otherwise specified.
All PNP transistors are 2SA1235-E,F unless otherwise specified.


IS
22K
22K
DTC124EK/UN2212
IS
22K
22K
DTA124EK/UN2112

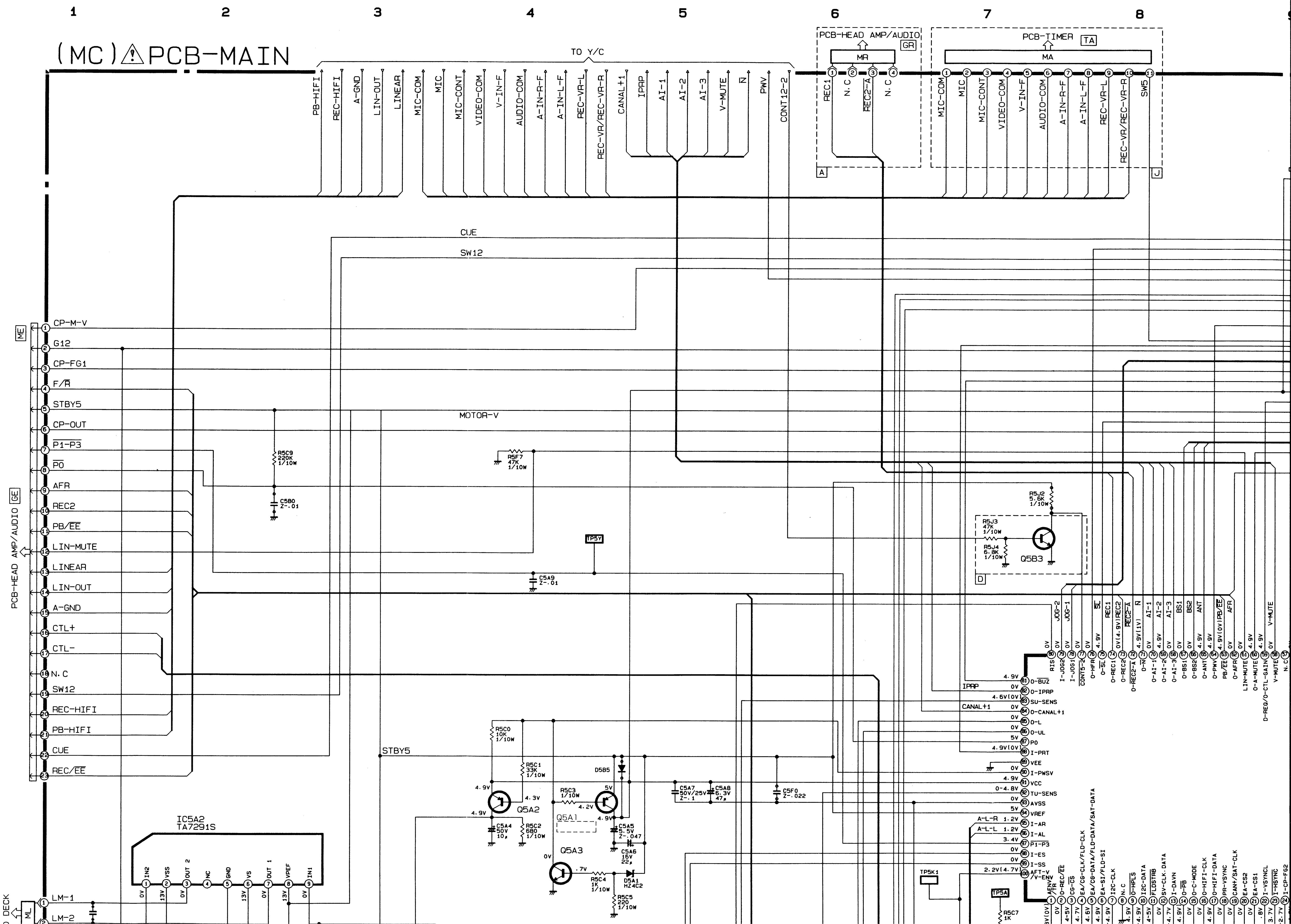

Q2A1
2SC3052-E, F
Q2A2
Q2A4
Q2A5
Q2A8
2SA933S-R, S
Q2A9
Q2R0
Q2R1
Q2G7
D2A0
DAP202K
D2A2
D2A3
D2G8
C2G9
50V
1μ
R2J6
22K
R2P1
2.2K
1/10W
TP2N
TP2J
C2K4
K-8200
R2B5
3.3K
1/10W
R2B6
270
1/10W
R2B7
33K
1/10W
R2B8
22K
1/10W
C2B1
K-8200
R2B9
470
1/10W
R2C1
33K
1/10W
R2C2
15K
1/10W
R2C0
180
1/10W
C2B0
K-8200
C2B2
MN-8200
R2A9
1/10W
R2A4
3.3K
1/10W
R2A6
180
1/10W
R2D2
3.3K
R2C3
33K
1/10W
R2C4
33K
1/10W
SW12
R2Y2
0
R2Y1
0
L2A6
100μH
C2C1
16V
100μ
R2C5
390
1/2W
R2C6
220
1/10W
C2C2
6.3V
1000μ
R2C9
68
R2K7
F-180
R2K8
F-220
R2K9
75
C2K1
K-8200
R2R0
820
R2R1
15K
1/10W
R2R2
47K
R2R3
100K
E
SP
GND
HA-SW
C-SYNC
DTR-ENV-OUT
AI-3
A-FF
MM
IC2A1(LC89970M)
C-1N1
C-1N2
CONT
Y-1N
VCO 1N
CENTER BIAS
AUTO BIAS 1
CLAMP
AUTO BIAS 2
VCO
1/3
TP2J PLAY
1.0Vp-p(H)
VIDEO-IN
C-SYNC
PRE-CG
POST-CG
EXT
L1/L2
PB5
PWV
D-FF
ROT
SS-V-SYNC
EE
SW12
SW5
SP
50/60HZ
AI-2
AI-1
C-MODE
N
AI-3
V-MUTE
IPRP
STBY5
STBY12
CANAL+
CANAL+1
DTR-ENV-OUT
HA-SW
COMP
HA-PB5
D-FF
MOTOR-V
G12
4.43MHZ
A-FF
PG-OUT
1/2VCC
D-FG
D-OUT
TO CG/VPS
TO MC
TO SERVO

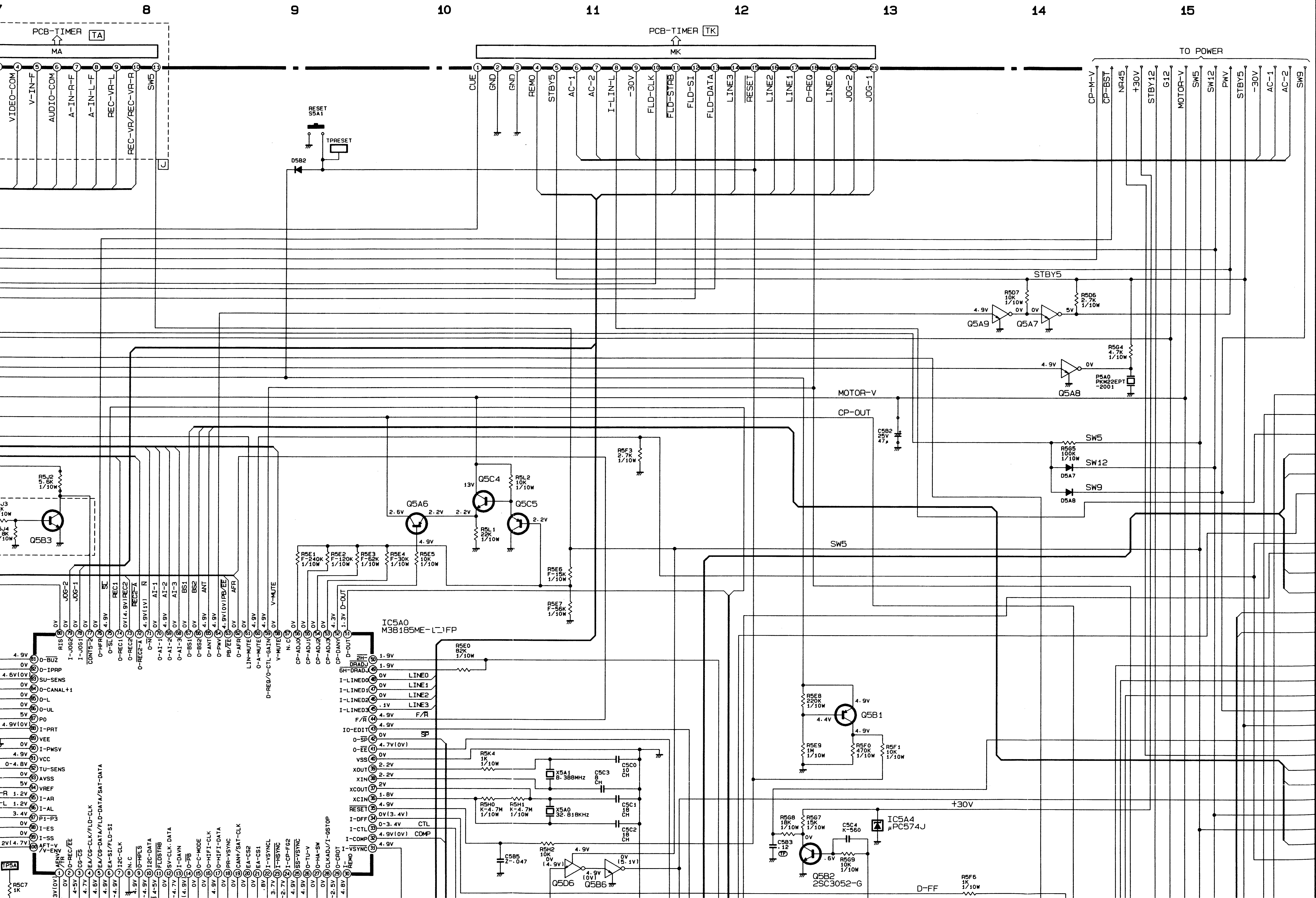
Recording of Luminance Signal
Playback of Luminance Signal
Recording of Color Signal
Playback of Color Signal

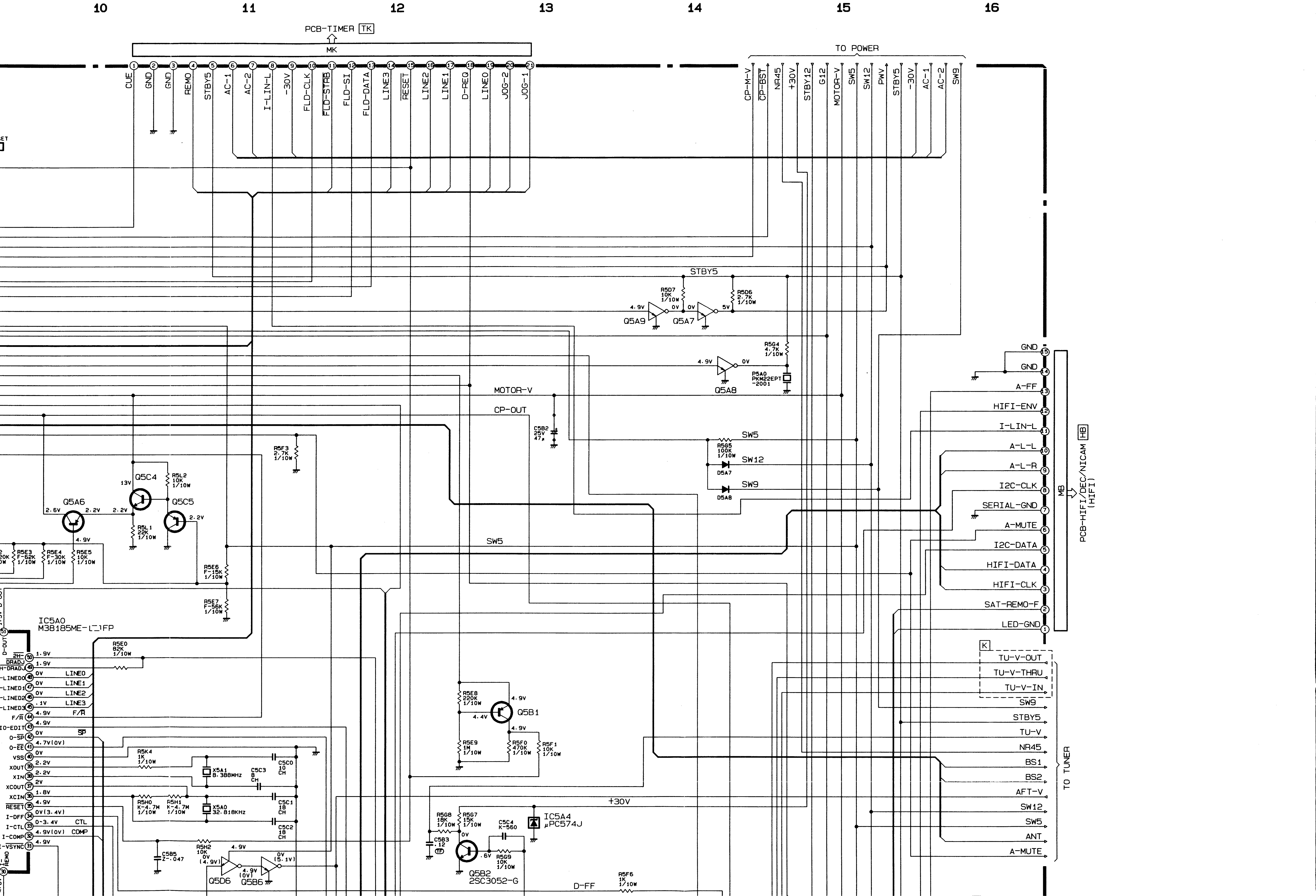

Q2A2
R2A9 1/10W
R2A4 3.3K 1/10W
R2A6 180 1/10W
Q2A1 2SC3052-E, F
0V
R2C3 33K 1/10W
D2G8
R2D2 3.3K
R2C4 33K 1/10W
SW12
R2Y2 0
C2B2 MN-8200
C2B0 K-8200
R2Y1 0
SP 17
GND 18
HA-SW 19
C-SYNC 20
DTR-ENV-OUT 21
AI-3 22
A-FF 23
MM
TP2N
Q2A4
(0V) 4.9V
(0V) 2.8V
(0V) 2.4V
R2B8 22K 1/10W
R2B6 270 1/10W
R2B7 33K 1/10W
C2B1 K-8200
R2B9 470 1/10W
(0V) 3.6V
(0V) 1.2V
R2C1 33K 1/10W
5V (0V)
R2C0 180 1/10W
Q2A5
R2C2 15K 1/10W
C2K4 K-8200
R2B5 3.3K 1/10W
L2A6 100μH
C2C1 16V 100μ
R2C5 390 1/2W
R2C9 68
3.7V
C2C2 6.3V 1000μ
R2K7 F-180
R2C6 220 1/10W
2.9V
Q2A8 2SA933S-R, S
TP2J
R2K8 F-220
R2K9 75
E
D2A3
R2R0 820
11.2V (0V)
Q2R1
R2R3 100K
R2R1 15K 1/10W
(0.7V) 0V
(0V) 0.6V
R2R2 47K
Q2R0
D2A0 DAP202K
0V
0V
Q2A9
C2K1 K-8200
TP2J PLAY
1.0Vp-p(H)
IC2A1(LC89970M)
C-1N1 2
CENTER BIAS
CCD 2.5BIT
S/H
23 C-OUT
C-1N2 4
CENTER BIAS
CCD 847BIT
CCD 858BIT
AUTO BIAS 1
CONT 22
Y-1N 7
CLAMP
CCD 843.5BIT
CCD 6BIT
S/H
9 Y-OUT
AUTO BIAS 2
BOOST
19 RD
φ1 φ2
CLK DRV.
DUTY CORR.
VCO 1N 14
VCO
TIMING
11 COMP
1/3
PHASE COMP.
WAVE FORM
20 FSC OUT
15 PC OUT
12 CLK
D-FF
ROT
SS-V-SYNC
EE
SW12
SW5
SP
50/60HZ
AI-2
AI-1
C-MODE
N
AI-3
V-MUTE
IPRP
STBY5
STBY12
CANAL+
CANAL+1
DTR-ENV-OUT
HA-SW
COMP
HA-PB5
D-FF
MOTOR-V
G12
4.43MHZ
A-FF
PG-OUT
1/2VCC
D-FG
D-OUT
TO MC
TO SERVO

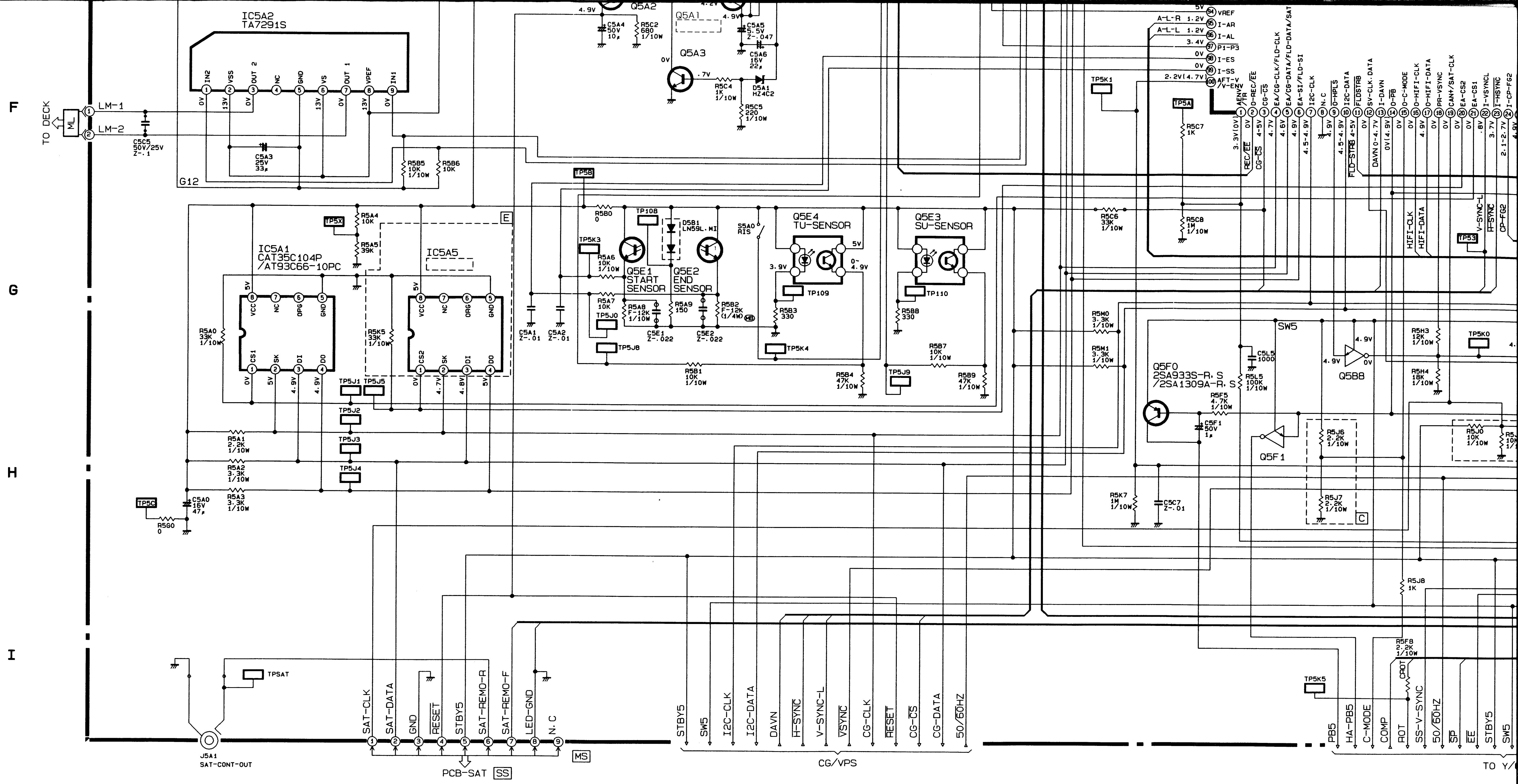
Recording of Luminance Signal
Playback of Luminance Signal
Recording of Color Signal
Playback of Color Signal

(MC)⚠PCB-MAIN


1
2
3
4
5
6
7
8
A
B
C
D
E
F
TO Y/C
PB-HIFI
REC-HIFI
A-GND
LIN-OUT
LINEAR
MIC-COM
MIC
MIC-CONT
VIDEO-COM
V-IN-F
AUDIO-COM
A-IN-R-F
A-IN-L-F
REC-VR-L
REC-VR/REC-VR-R
CANAL+1
IPRP
AI-1
AI-2
AI-3
V-MUTE
N̄
PWV
CONT12-2
PCB-HEAD AMP/AUDIO
GR
MR
REC1
N.C
REC2-A
A
PCB-TIMER
TA
MA
SW5
J
CUE
SW12
MOTOR-V
ME
CP-M-V
G12
CP-FG1
F/R̄
STBY5
CP-OUT
P1-P3
PO
AFR
REC2
PB/EE
LIN-MUTE
LINEAR
LIN-OUT
A-GND
CTL+
CTL-
N.C
SW12
REC-HIFI
PB-HIFI
CUE
REC/EE
PCB-HEAD AMP/AUDIO
GE
R5C9 220K 1/10W
C5B0 Z-.01
R5F7 47K 1/10W
TP5Y
C5A9 Z-.01
R5J2 5.6K 1/10W
R5J3 47K 1/10W
R5J4 6.8K 1/10W
Q5B3
D
STBY5
R5C0 10K 1/10W
R5C1 33K 1/10W
Q5A2
R5C3 1/10W
D5B5
Q5A1
C5A4 50V 10μ
R5C2 680 1/10W
C5A5 5.5V Z-.047
C5A6 16V 22μ
Q5A3
R5C4 1K 1/10W
R5C5 220 1/10W
D5A1 HZ4C2
C5A7 50V/25V Z-.1
C5A8 6.3V 47μ
C5F0 Z-.022
IC5A2
TA7291S
IN2
VSS
OUT 2
NC
GND
VS
OUT 1
VPEF
IN1
D DECK
ML
LM-1
LM-2
TP5K1
TP5A
R5C7 1K
JOG-2
JOG-1
SL
REC1
0V(4.9V)REC2
REC2-A
AI-1
AI-2
AI-3
BS1
BS2
ANT
PB/EE
AFR
V-MUTE
RIS
I-JOG2
I-JOG1
CONT5-2
O-HFR
O-SL
O-REC1
O-REC2
O-REC2-A
O-N
O-AI-1
O-AI-2
O-AI-3
O-BS1
O-BS2
O-ANT
O-PWV
PB/EE
O-AFR
LIN-MUTE
O-A-MUTE
D-REO/O-CTL-GAIN
V-MUTE
N.C
O-BUZ
O-IPRP
SU-SENS
O-CANAL+1
O-L
O-UL
PO
I-PRT
VEE
I-PWSV
VCC
TU-SENS
AVSS
VREF
I-AR
I-AL
P1-P3
I-ES
I-SS
AFT-V /V-ENV
IPRP
CANAL+1
A-L-R
A-L-L
AENV /TR
O-REC/EE
C6-C5
EA/CG-CLK/FLD-CLK
EA/CG-DATA/FLD-DATA/SAT-DATA
EA-SI/FLD-SI
I2C-CLK
N.C
O-HPLS
I2C-DATA
FLDSTRB
SV-CLK.DATA
I-DAVN
O-PB
O-C-MODE
O-HIFI-CLK
O-HIFI-DATA
PR-VSYNC
CAN+/SAT-CLK
EA-CS2
EA-CS1
I-VSYNCL
I-HSYNC
I-CP-FG2

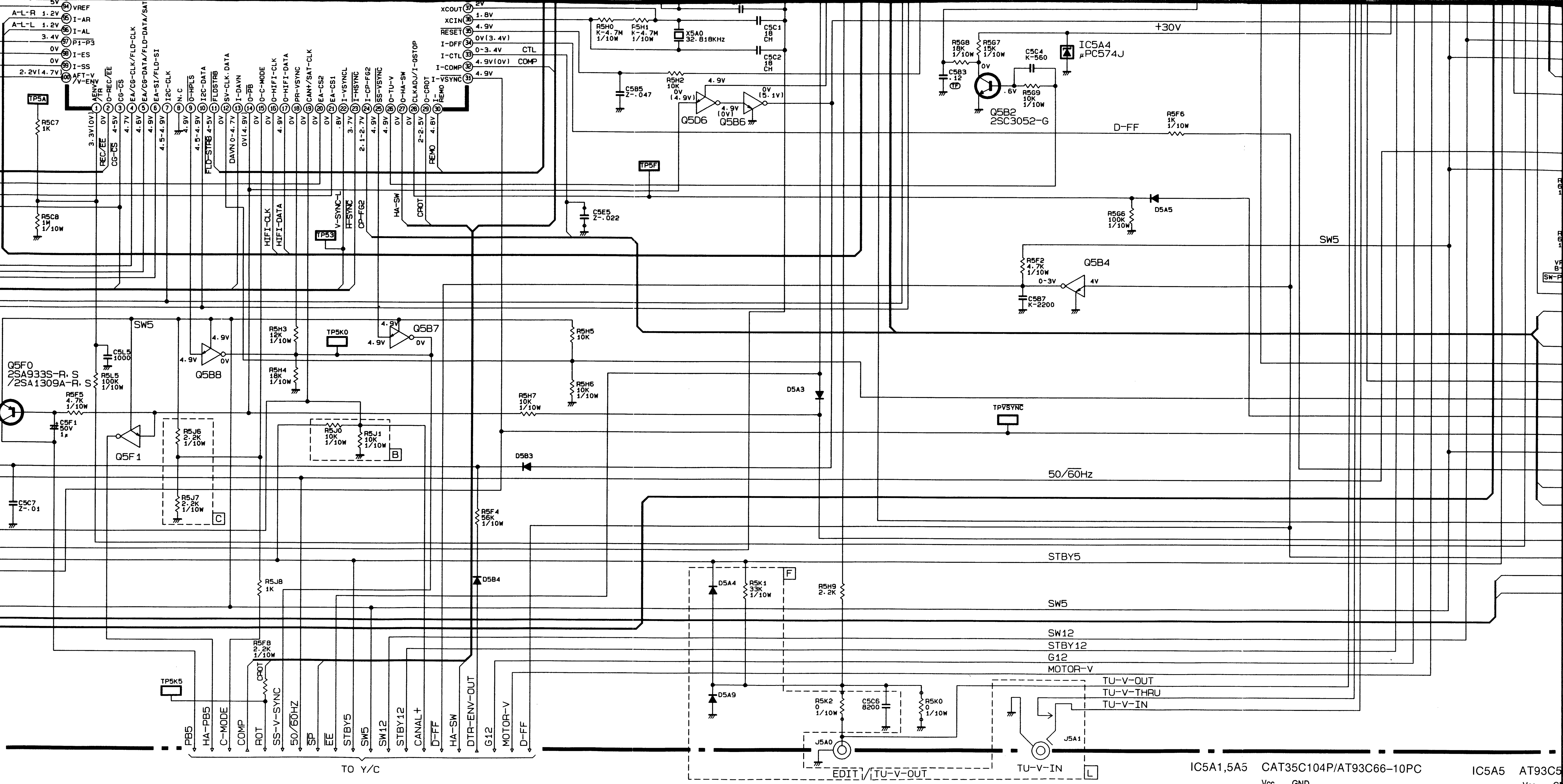

8
9
10
11
12
13
14
15
PCB-TIMER TA
MA
VIDEO-COM
V-IN-F
AUDIO-COM
A-IN-R-F
A-IN-L-F
REC-VR-L
REC-VR/REC-VR-R
SW5
J
PCB-TIMER TK
MK
CUE
GND
GND
REMO
STBY5
AC-1
AC-2
I-LIN-L
-30V
FLD-CLK
FLD-STRB
FLD-SI
FLD-DATA
LINE3
RESET
LINE2
LINE1
D-REQ
LINE0
JOG-2
JOG-1
TO POWER
CP-M-V
CP-BST
NR45
+30V
STBY12
G12
MOTOR-V
SW5
SW12
PWV
STBY5
-30V
AC-1
AC-2
SW9
RESET S5A1
TPRESET
D5B2
STBY5
R5D7 10K 1/10W
R5D6 2.7K 1/10W
4.9V
0V
0V
5V
Q5A9
Q5A7
R5G4 4.7K 1/10W
4.9V
0V
P5A0 PKM22EPT -2001
Q5A8
MOTOR-V
CP-OUT
C5B2 25V 47μ
SW5
R5G5 100K 1/10W
SW12
D5A7
SW9
D5A8
R5F3 2.7K 1/10W
Q5C4
13V
R5L2 10K 1/10W
Q5C5
2.2V
R5L1 22K 1/10W
Q5A6
2.6V
2.2V
2.2V
4.9V
R5E1 F-240K 1/10W
R5E2 F-120K 1/10W
R5E3 F-62K 1/10W
R5E4 F-30K 1/10W
R5E5 10K 1/10W
R5E6 F-15K 1/10W
R5E7 F-56K 1/10W
SW5
R5J2 5.6K 1/10W
Q5B3
IC5A0 M38185ME-□□FP
R5E0 82K 1/10W
LINE0
LINE1
LINE2
LINE3
F/R
SP
CTL
COMP
R5K4 1K 1/10W
X5A1 8.388MHz
C5C3 8 CH
C5C0 10 CH
R5H0 K-4.7M 1/10W
R5H1 K-4.7M 1/10W
X5A0 32.818KHz
C5C1 18 CH
C5C2 18 CH
C5B5 Z-.047
R5H2 10K
4.9V
Q5D6
Q5B6
R5E8 220K 1/10W
R5E9 1M 1/10W
Q5B1
4.9V
4.4V
4.9V
R5F0 470K 1/10W
R5F1 10K 1/10W
+30V
IC5A4 μPC574J
R5G8 18K 1/10W
R5G7 15K 1/10W
C5B3 .12
C5C4 K-560
R5G9 10K 1/10W
Q5B2 2SC3052-G
R5F6 1K 1/10W
D-FF
TP5A
R5C7 1K
O-BUZ
O-IPRP
SU-SENS
O-CANAL+1
O-L
O-UL
PO
I-PRT
VEE
I-PWSV
VCC
TU-SENS
AVSS
VREF
I-AR
I-AL
P1-P3
I-ES
I-SS
AFT-V /V-ENV
2H-DRADJ
6H-DRADJ
I-LINED0
I-LINED1
I-LINED2
I-LINED3
F/R
IO-EDIT
O-SP
O-EE
VSS
XOUT
XIN
XCOUT
XCIN
RESET
I-DFF
I-CTL
I-COMP
I-VSYNC
RIS
I-JOG2
I-JOG1
CONT5-2
O-HFR
O-SL
O-REC1
O-REC2
O-REC2-A
O-N
O-AI-1
O-AI-2
O-AI-3
O-BS1
O-BS2
O-ANT
O-PWV
PB/EE
O-AFR
LIN-MUTE
O-A-MUTE
O-REO/O-CTL-GAIN
V-MUTE
N.C
CP-ADJ0
CP-ADJ1
CP-ADJ2
CP-ADJ3
CP-DANY
D-OUT
JOG-2
JOG-1
SL
REC1
REC2
REC2-A
N
AI-1
AI-2
AI-3
BS1
BS2
ANT
PB/EE
AFR
V-MUTE
D-OUT
CG-CLK/FLD-CLK
EA/CG-DATA/FLD-DATA/SAT-DATA
EA-SI/FLD-SI
I2C-CLK
N.C
O-HPLS
I2C-DATA
FLDSTRB
SV-CLK.DATA
I-DAVN
O-PB
O-C-MODE
O-HIFI-CLK
O-HIFI-DATA
PR-VSYNC
CAN+/SAT-CLK
EA-CS2
EA-CS1
I-VSYNCL
I-HSYNC
I-CP-FG2
SS-VSYNC
O-TU-V
O-HA-SW
CLKADJ/I-OSTOP
D-CROT
REMO
I-ENV /V-R
O-REC/EE
CG-CS


10
11
12
13
14
15
16
PCB-TIMER TK
MK
CUE
GND
GND
REMO
STBY5
AC-1
AC-2
I-LIN-L
-30V
FLD-CLK
FLD-STRB
FLD-SI
FLD-DATA
LINE3
RESET
LINE2
LINE1
D-REQ
LINEO
JOG-2
JOG-1
TO POWER
CP-M-V
CP-BST
NR45
+30V
STBY12
G12
MOTOR-V
SW5
SW12
PWV
STBY5
-30V
AC-1
AC-2
SW9
STBY5
R5D7 10K 1/10W
R5D6 2.7K 1/10W
Q5A9
Q5A7
R5G4 4.7K 1/10W
P5A0 PKM22EPT -2001
Q5A8
MOTOR-V
CP-OUT
C5B2 25V 47μ
R5F3 2.7K 1/10W
SW5
SW12
SW9
R5G5 100K 1/10W
D5A7
D5A8
Q5C4
R5L2 10K 1/10W
Q5C5
Q5A6
R5L1 22K 1/10W
R5E3 F-62K 1/10W
R5E4 F-30K 1/10W
R5E5 10K 1/10W
R5E6 F-15K 1/10W
R5E7 F-56K 1/10W
IC5A0 M38185ME-□□FP
R5E0 82K 1/10W
LINE0
LINE1
LINE2
LINE3
F/R
SP
CTL
COMP
R5K4 1K 1/10W
X5A1 8.388MHz
C5C3 8 CH
C5C0 10 CH
R5H0 K-4.7M 1/10W
R5H1 K-4.7M 1/10W
X5A0 32.818KHz
C5C1 18 CH
C5C2 18 CH
C5B5 Z-.047
R5H2 10K
Q5D6
Q5B6
R5E8 220K 1/10W
Q5B1
R5E9 1M 1/10W
R5F0 470K 1/10W
R5F1 10K 1/10W
+30V
R5G8 18K 1/10W
R5G7 15K 1/10W
C5C4 K-560
IC5A4 μPC574J
C5B3 .12 TF
Q5B2 2SC3052-G
R5G9 10K 1/10W
D-FF
R5F6 1K 1/10W
SW5
GND
GND
A-FF
HIFI-ENV
I-LIN-L
A-L-L
A-L-R
I2C-CLK
SERIAL-GND
A-MUTE
I2C-DATA
HIFI-DATA
HIFI-CLK
SAT-REMO-F
LED-GND
MB
PCB-HIFI/DEC/NICAM HB (HIFI)
K
TU-V-OUT
TU-V-THRU
TU-V-IN
SW9
STBY5
TU-V
NR45
BS1
BS2
AFT-V
SW12
SW5
ANT
A-MUTE
TO TUNER
D-OUT
2H-DRADJ
H-DRADJ
-LINED0
-LINED1
-LINED2
-LINED3
F/R
IO-EDIT
O-SP
O-EE
VSS
XOUT
XIN
XCOUT
XCIN
RESET
I-DFF
I-CTL
I-COMP
I-VSYNC
REMO
1.9V
1.9V
0V
0V
0V
.1V
4.9V
4.9V
0V
4.7V(0V)
0V
2.2V
2.2V
2V
1.8V
4.9V
0V(3.4V)
0-3.4V
4.9V(0V)
4.9V
13V
2.6V
2.2V
2.2V
2.2V
4.9V
4.9V
0V
0V
5V
4.9V
0V
4.9V
4.4V
4.9V
0V
.6V
4.9V
0V (4.9V)
4.9V (0V)
0V (5.1V)


F
G
H
I
TO DECK
ML
LM-1
LM-2
C5C5 50V/25V Z-.1
IC5A2 TA7291S
IN2
VSS
OUT 2
NC
GND
VS
OUT 1
VREF
IN1
C5A3 25V 33μ
R5B5 10K 1/10W
R5B6 10K
G12
Q5A2
C5A4 50V 10μ
R5C2 680 1/10W
Q5A1
C5A5 5.5V Z-.047
C5A6 16V 22μ
Q5A3
R5C4 1K 1/10W
D5A1 HZ4C2
R5C5 220 1/10W
VREF
I-AR
I-AL
P1-P3
I-ES
I-SS
AFT-V /V-ENV
TP5K1
TP5A
R5C7 1K
TP58
R5B0 0
TP108
D5B1 LN59L.MI
S5A0 RIS
Q5E4 TU-SENSOR
Q5E3 SU-SENSOR
TP5K3
R5A6 10K 1/10W
Q5E1 START SENSOR
Q5E2 END SENSOR
TP109
TP110
R5A7 10K
R5A8 F-12K 1/10W
R5A9 150
R5B2 F-12K (1/4W)
R5B3 330
R5B8 330
TP5J0
C5E1 Z-.022
C5E2 Z-.022
TP5J8
TP5K4
C5A1 Z-.01
C5A2 Z-.01
R5B1 10K 1/10W
R5B4 47K 1/10W
R5B7 10K 1/10W
TP5J9
R5B9 47K 1/10W
TP5X
R5A4 10K
R5A5 39K
IC5A1 CAT35C104P /AT93C66-10PC
IC5A5
E
R5A0 33K 1/10W
R5K5 33K 1/10W
VCC
ORG
CS1
CS2
SK
DI
DO
TP5J1
TP5J5
TP5J2
TP5J3
TP5J4
R5A1 2.2K 1/10W
R5A2 3.3K 1/10W
R5A3 3.3K 1/10W
TP5C
C5A0 16V 47μ
R5G0 0
R5C6 33K 1/10W
R5C8 1M 1/10W
R5M0 3.3K 1/10W
R5M1 3.3K 1/10W
SW5
C5L5 1000
R5L5 100K 1/10W
Q5F0 2SA933S-R,S /2SA1309A-R,S
R5F5 4.7K 1/10W
C5F1 50V 1μ
Q5F1
Q5B8
R5J6 2.2K 1/10W
R5J7 2.2K 1/10W
C
R5K7 1M 1/10W
C5C7 Z-.01
R5H3 12K 1/10W
R5H4 18K 1/10W
TP5K0
R5J0 10K 1/10W
TP53
HIFI-CLK
HIFI-DATA
V-SYNC-L
H-SYNC
CP-FG2
R5J8 1K
R5F8 2.2K 1/10W
TP5K5
TPSAT
J5A1 SAT-CONT-OUT
SAT-CLK
SAT-DATA
GND
RESET
STBY5
SAT-REMO-R
SAT-REMO-F
LED-GND
N.C
PCB-SAT
SS
MS
STBY5
SW5
I2C-CLK
I2C-DATA
DAVN
H-SYNC
V-SYNC-L
VSYNC
CG-CLK
RESET
CG-CS
CG-DATA
50/60HZ
CG/VPS
PB5
HA-PB5
C-MODE
COMP
ROT
SS-V-SYNC
50/60HZ
SP
EE
STBY5
SW5
TO Y/

○ : Employed, × : Not Employed

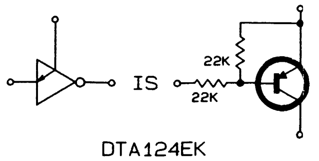
SYMBOL	B	E	IC5A5	C5B2	F	R5K0	C5C5	C5E1	C5E2	C5B0	C5F0	A	C	D	IC5A0	C5E5	R5C6	J	R5J2	R5C3	L	K	J5A0	D5B5	Q5A1
ADDRESS	H-9	G-3	G-3	C-13	H-11	I-12	F-1	G-4	G-4	D-2	E-6	A-6	H-8	D-7	E-10	F-10	G-7	A-8	C-7	F-4	I-13	E-16	I-12	E-5	F-4
651V(Y)	○	×	---	×	×	○	×	×	×	×	×	×	×	○	096	×	○	×	○	470	×	×	×	×	2SA1235-E,F
651V(B)	×	○	AT93C56-10PC	×	×	○	×	×	×	×	×	×	×	×	166	×	○	×	×	2.2K	×	×	×	○	2SA1235-F
651V(E)	○	×	---	×	×	○	×	×	×	×	×	×	×	○	142	×	○	×	○	470	×	×	×	×	2SA1235-E,F
651V(IR)	×	○	AT93C56-10PC	×	×	○	×	×	×	×	×	×	×	×	166	×	○	×	×	470	×	×	×	×	2SA1235-E,F
651V(G)	○	○	CAT35C104P/ AT93C66-10PC	×	×	○	×	×	×	×	×	×	×	×	096	×	○	×	○	470	×	×	×	×	2SA1235-E,F
651V(A)	×	×	---	×	×	○	×	×	×	×	×	×	×	×	142	×	○	×	×	470	×	×	×	×	2SA1235-E,F
651V(NZ)	×	×	---	×	×	○	×	×	×	×	×	×	×	×	119	×	○	×	×	470	○	○	○	×	2SA1235-E,F



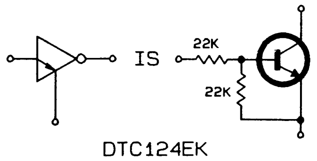
TP5A
R5C7 1K
R5C8 1M 1/10W
SW5
Q5F0 2SA933S-R, S /2SA1309A-R, S
R5F5 4.7K 1/10W
C5F1 50V 1μ
C5L5 1000
R5L5 100K 1/10W
Q5F1
C5C7 Z-.01
Q5B8
R5J6 2.2K 1/10W
R5J7 2.2K 1/10W
C
R5H3 12K 1/10W
R5H4 18K 1/10W
TP5K0
Q5B7
R5J0 10K 1/10W
R5J1 10K 1/10W
B
R5H5 10K
R5H6 10K 1/10W
R5H7 10K 1/10W
D5B3
R5F4 56K 1/10W
D5B4
R5J8 1K
R5F8 2.2K 1/10W
TP5K5
TP53
TP5F
C5E5 Z-.022
C5B5 Z-.047
R5H2 10K
Q5D6
Q5B6
R5H0 K-4.7M 1/10W
R5H1 K-4.7M 1/10W
X5A0 32.818KHz
C5C1 18 CH
C5C2 18 CH
R5G8 18K 1/10W
R5G7 15K 1/10W
C5B3 .12
C5C4 K-560
IC5A4 μPC574J
R5G9 10K 1/10W
Q5B2 2SC3052-G
+30V
D-FF
R5F6 1K 1/10W
D5A5
R5G6 100K 1/10W
R5F2 4.7K 1/10W
Q5B4
C5B7 K-2200
D5A3
TPVSYNC
50/60Hz
STBY5
SW5
SW12
STBY12
G12
MOTOR-V
TU-V-OUT
TU-V-THRU
TU-V-IN
F
D5A4
R5K1 33K 1/10W
R5H9 2.2K
D5A9
R5K2 0 1/10W
C5C6 8200
R5K0 0 1/10W
J5A0
J5A1
EDIT / TU-V-OUT
TU-V-IN
L
PB5
HA-PB5
C-MODE
COMP
ROT
SS-V-SYNC
50/60HZ
SP
EE
STBY5
SW5
SW12
STBY12
CANAL+
D-FF
HA-SW
DTR-ENV-OUT
G12
MOTOR-V
D-FF
TO Y/C

J	R5J2	R5C3	L	K	J5A0	D5B5	Q5A1
A-8	C-7	F-4	I-13	E-16	I-12	E-5	F-4
×	○	470	×	×	×	×	2SA1235-E,F
×	×	2.2K	×	×	×	○	2SA1235-F
×	○	470	×	×	×	×	2SA1235-E,F
×	×	470	×	×	×	×	2SA1235-E,F
×	○	470	×	×	×	×	2SA1235-E,F
×	×	470	×	×	×	×	2SA1235-E,F
×	×	470	○	○	○	×	2SA1235-E,F

All diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3052-E,F unless otherwise specified.
All PNP transistors are 2SA1235-E,F unless otherwise specified.

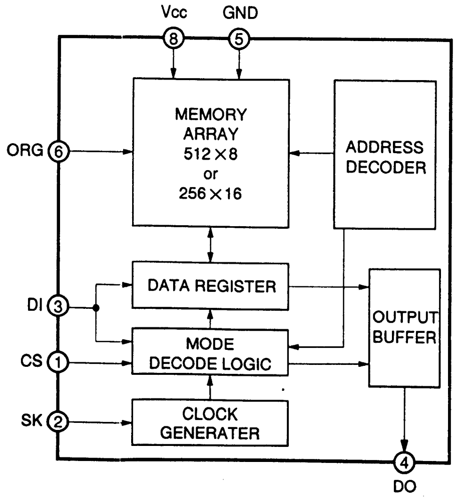


DTA124EK



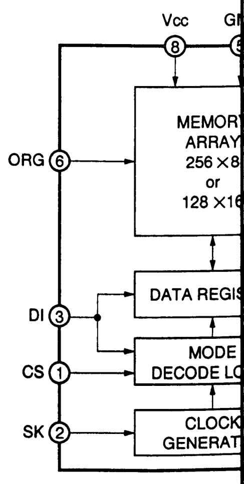
DTC124EK

IC5A1,5A5 CAT35C104P/AT93C66-10PC

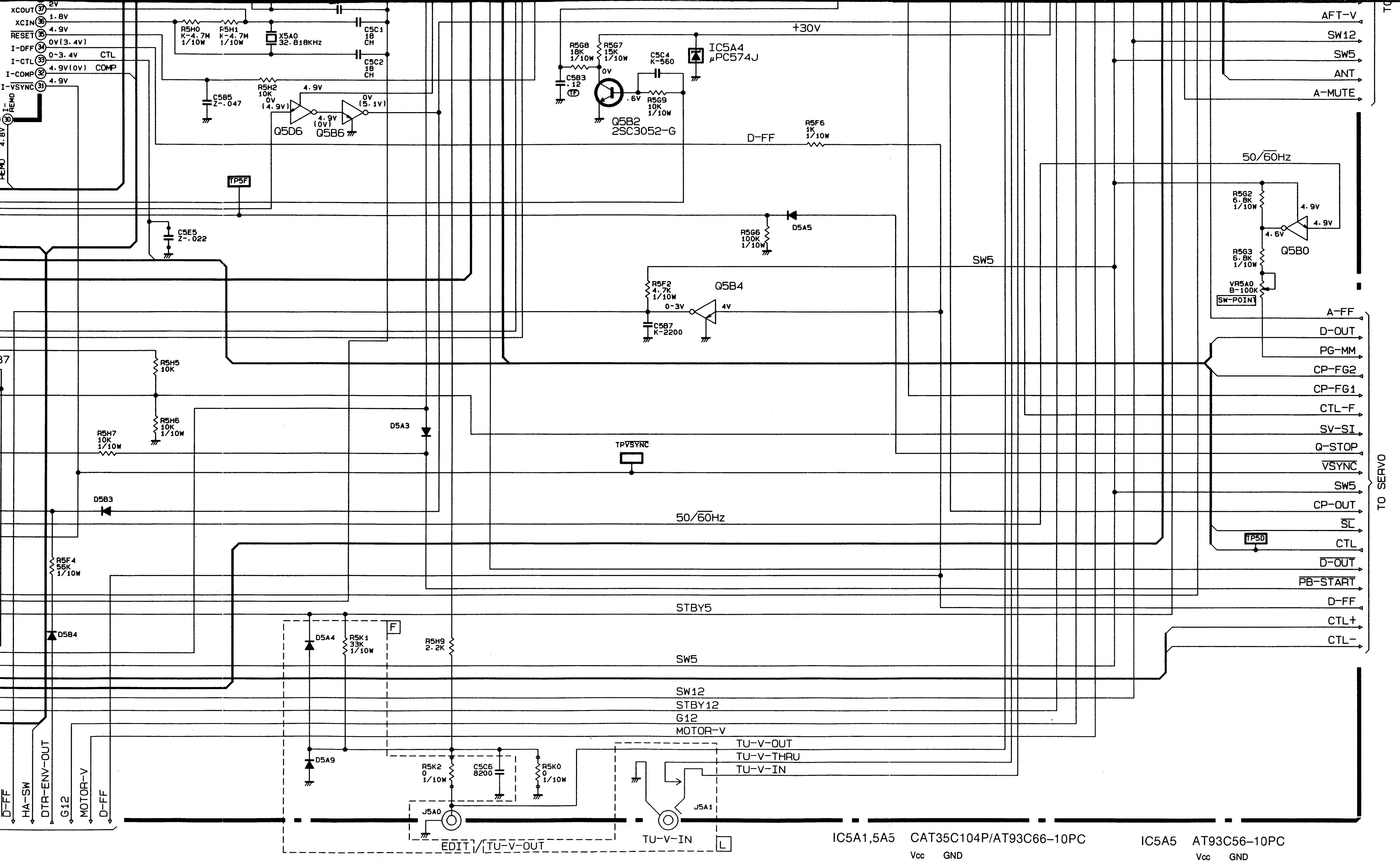


Vcc
GND
8
5
ORG 6
MEMORY ARRAY 512×8 or 256×16
ADDRESS DECODER
DATA REGISTER
DI 3
MODE DECODE LOGIC
OUTPUT BUFFER
CS 1
CLOCK GENERATER
SK 2
4
DO

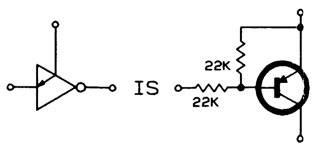
IC5A5 AT93C5



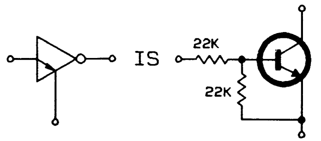
Vcc
8
ORG 6
MEMORY ARRAY 256×8 or 128×16
DATA REGIS
DI 3
MODE DECODE LO
CS 1
CLOCK GENERAT
SK 2


XCOUT ㊲ 2V
XCIN ㊱ 1.8V
RESET ㉟ 4.9V
I-DFF ㉞ 0V(3.4V)
I-CTL ㉝ 0~3.4V CTL
I-COMP ㉜ 4.9V(0V) COMP
I-VSYNC ㉛ 4.9V
I-REMO ㉚
4.8V
REMO
R5H0 K-4.7M 1/10W
R5H1 K-4.7M 1/10W
X5A0 32.818KHz
C5C1 18 CH
C5C2 18 CH
C5B5 Z-.047
R5H2 10K
0V (4.9V)
4.9V (0V)
0V (5.1V)
Q5D6
Q5B6
TP5F
C5E5 Z-.022
+30V
R5G8 18K 1/10W
R5G7 15K 1/10W
0V
C5B3 .12 TF
.6V
C5C4 K-560
R5G9 10K 1/10W
IC5A4 μPC574J
Q5B2 2SC3052-G
D-FF
R5F6 1K 1/10W
R5G6 100K 1/10W
D5A5
SW5
R5F2 4.7K 1/10W
0~3V
4V
Q5B4
C5B7 K-2200
50/60Hz
R5G2 6.8K 1/10W
4.9V
4.9V
4.6V
Q5B0
R5G3 6.8K 1/10W
VR5A0 B-100K
SW-POINT
AFT-V
SW12
SW5
ANT
A-MUTE
A-FF
D-OUT
PG-MM
CP-FG2
CP-FG1
CTL-F
SV-SI
Q-STOP
VSYNC
SW5
CP-OUT
SL
CTL
TP5D
D-OUT
PB-START
D-FF
CTL+
CTL-
TO SERVO
R5H5 10K
R5H6 10K 1/10W
R5H7 10K 1/10W
D5A3
TPVSYNC
D5B3
50/60Hz
R5F4 56K 1/10W
D5B4
STBY5
F
D5A4
R5K1 33K 1/10W
R5H9 2.2K
SW5
SW12
STBY12
G12
MOTOR-V
TU-V-OUT
TU-V-THRU
TU-V-IN
D5A9
R5K2 0 1/10W
C5C6 8200
R5K0 0 1/10W
J5A0
J5A1
EDIT/TU-V-OUT
TU-V-IN
L
D-FF
HA-SW
DTR-ENV-OUT
G12
MOTOR-V
D-FF

All diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3052-E,F unless otherwise specified.
All PNP transistors are 2SA1235-E,F unless otherwise specified.

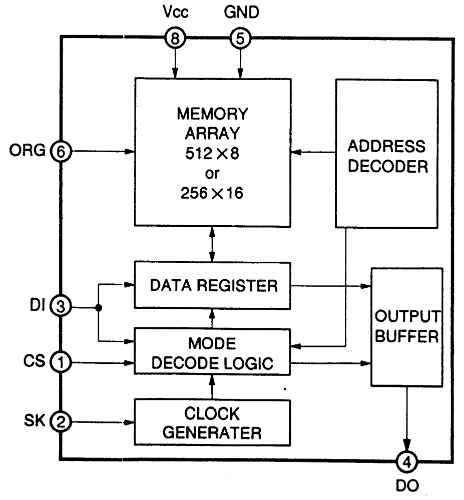


DTA124EK

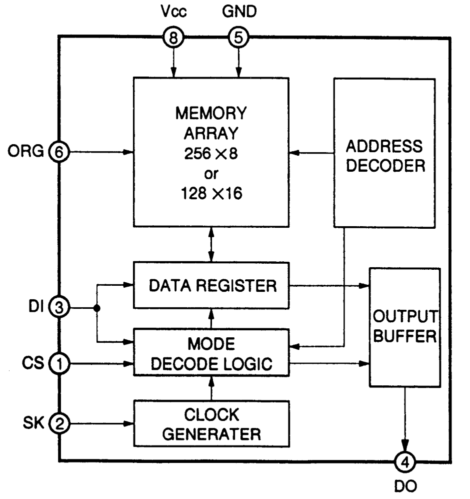


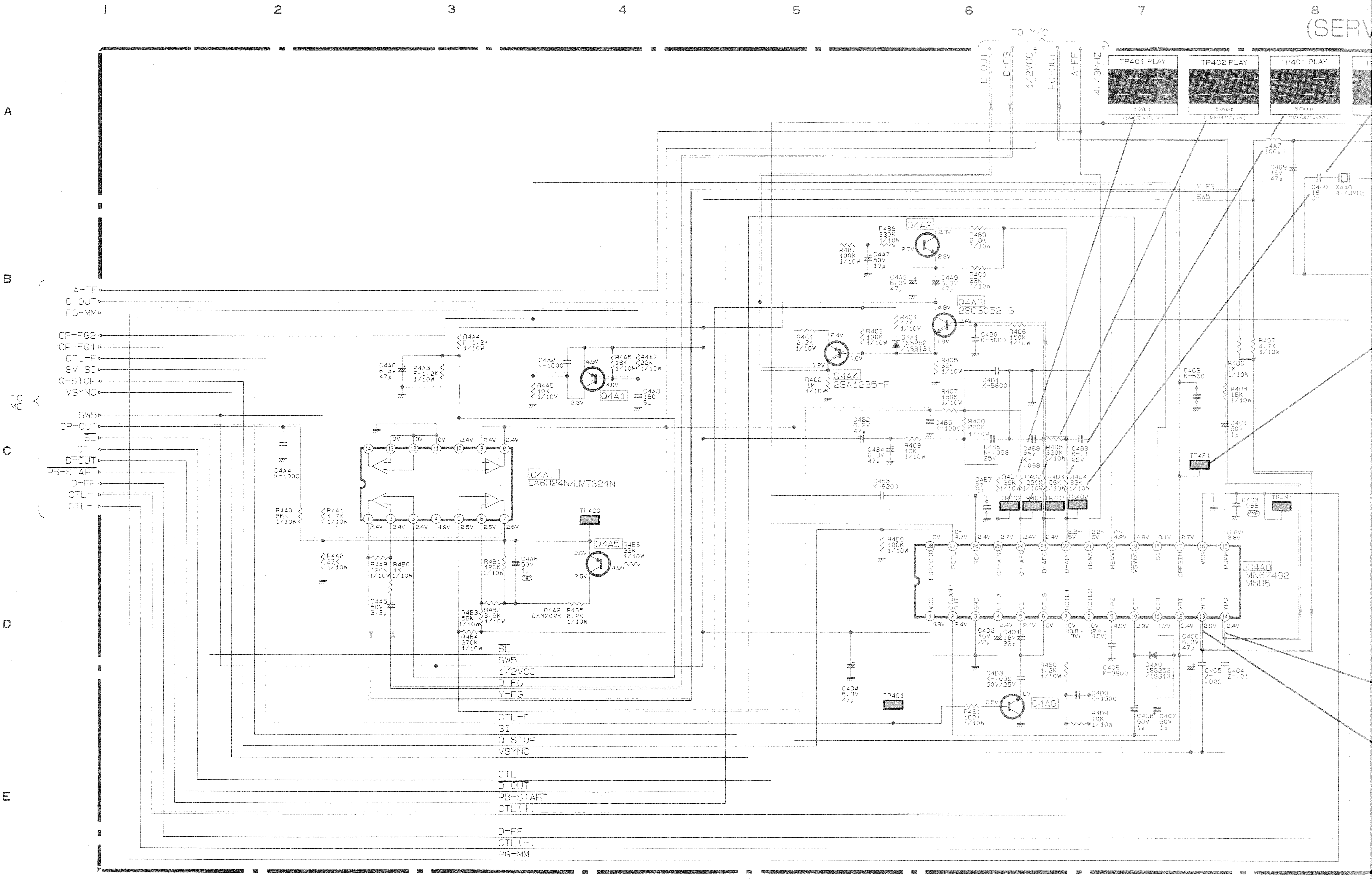
DTC124EK

IC5A1,5A5 CAT35C104P/AT93C66-10PC


Vcc
GND
⑧
⑤
MEMORY ARRAY 512×8 or 256×16
ADDRESS DECODER
ORG ⑥
DATA REGISTER
OUTPUT BUFFER
DI ③
CS ①
MODE DECODE LOGIC
SK ②
CLOCK GENERATER
④
DO

IC5A5 AT93C56-10PC

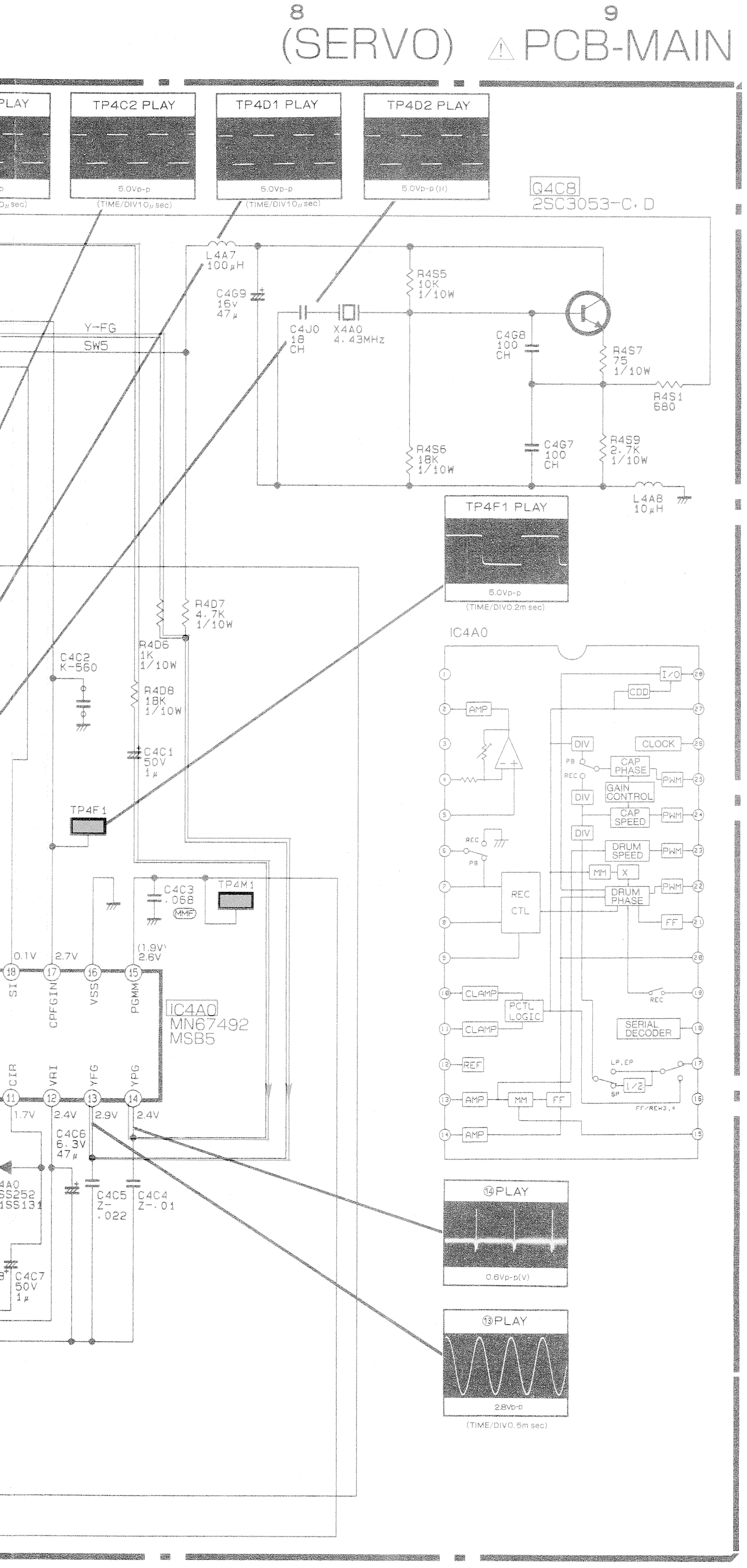

Vcc
GND
⑧
⑤
MEMORY ARRAY 256×8 or 128×16
ADDRESS DECODER
ORG ⑥
DATA REGISTER
OUTPUT BUFFER
DI ③
CS ①
MODE DECODE LOGIC
SK ②
CLOCK GENERATER
④
DO



(SERV
1
2
3
4
5
6
7
8
A
B
C
D
E
TO Y/C
D-OUT
D-FG
1/2VCC
PG-OUT
A-FF
4.43MHZ
TP4C1 PLAY
TP4C2 PLAY
TP4D1 PLAY
5.0Vp-p
(TIME/DIV10μsec)
TO MC
A-FF
D-OUT
PG-MM
CP-FG2
CP-FG1
CTL-F
SV-SI
Q-STOP
VSYNC
SW5
CP-OUT
SL
CTL
D-OUT
PB-START
D-FF
CTL+
CTL-
IC4A1
LA6324N/LMT324N
IC4A0
MN67492
MSB5
Q4A1
Q4A2
Q4A3
2SC3052-G
Q4A4
2SA1235-F
Q4A5
Q4A6
TP4C0
TP4G1
TP4F1
TP4M1
TP4C2
TP4C1
TP4D1
TP4D2
D4A1
1SS252
/1SS131
D4A2
DAN202K
D4A0
1SS252
/1SS131
L4A7
100μH
X4A0
4.43MHz
C4J0
18
CH
C4G9
16V
47μ
Y-FG
SW5
FSP/CDU
PCTL
RCK
CP-APC
CP-AFC
D-AFC
D-APC
HSWA
HSWV
VSYNC
SI
CPFGIN
VSS
PGMM
VDD
CTL AMP OUT
GND
CTLA
CI
CTLS
RCTL1
RCTL2
TPZ
CIF
CIR
VRI
YFG
YPG
SL
SW5
1/2VCC
D-FG
Y-FG
CTL-F
SI
Q-STOP
VSYNC
CTL
D-OUT
PB-START
CTL(+)
D-FF
CTL(-)
PG-MM

All NPN transistors are 2SC3052-E.F unless otherwise specified.
All PNP transistors are 2SA1235-E.F unless otherwise specified.

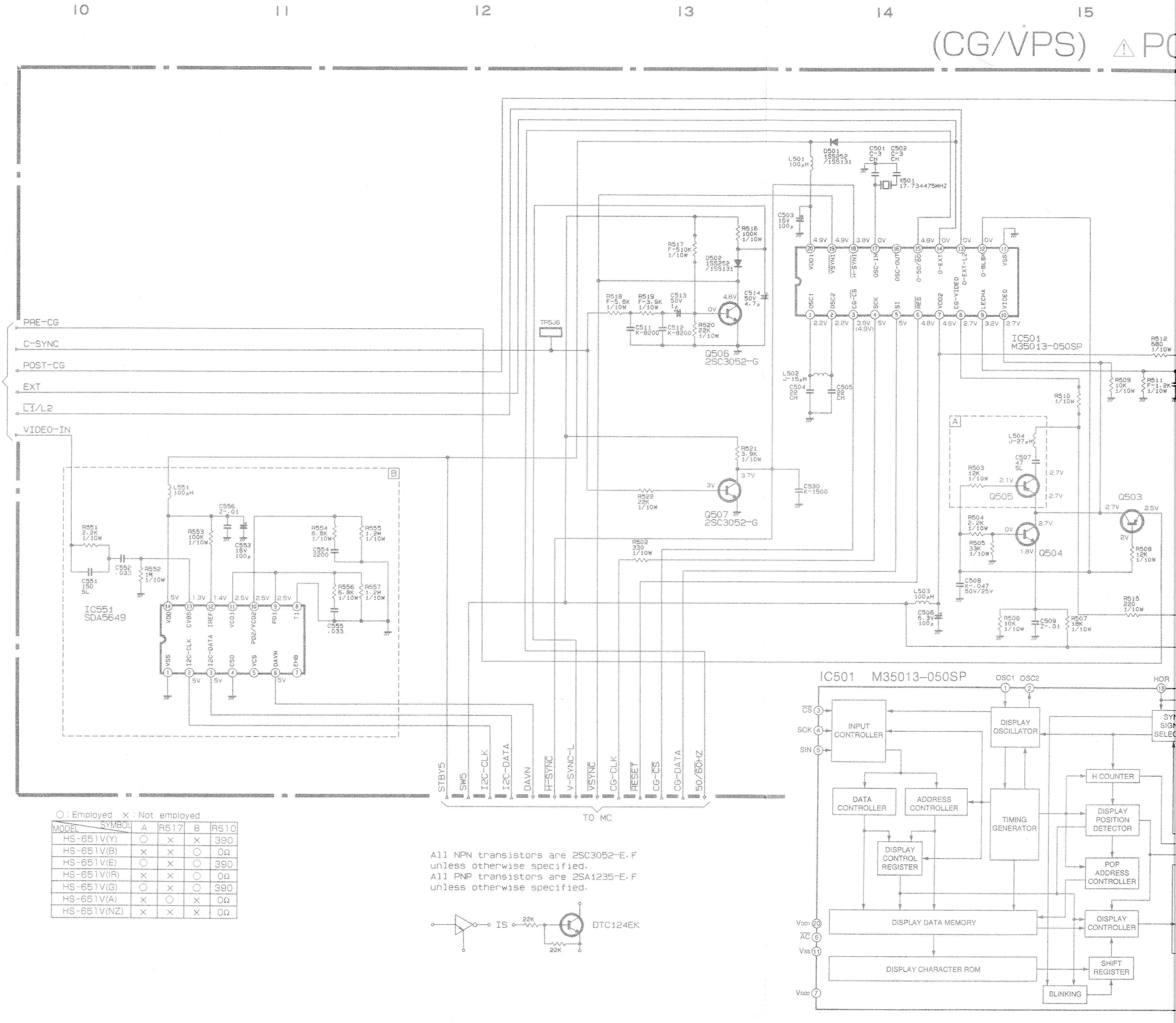
(SERVO) ⚠PCB-MAIN


8
9
TP4C2 PLAY
TP4D1 PLAY
TP4D2 PLAY
5.0Vp-p
(TIME/DIV10μ sec)
5.0Vp-p(H)
Q4C8
2SC3053-C, D
L4A7
100μH
C4G9
16V
47μ
C4J0
18
CH
X4A0
4.43MHz
R4S5
10K
1/10W
C4G8
100
CH
R4S7
75
1/10W
R4S1
680
R4S6
18K
1/10W
C4G7
100
CH
R4S9
2.7K
1/10W
L4A8
10μH
Y-FG
SW5
TP4F1 PLAY
5.0Vp-p
(TIME/DIV0.2m sec)
R4D7
4.7K
1/10W
R4D6
1K
1/10W
R4D8
18K
1/10W
C4C2
K-560
C4C1
50V
1μ
TP4F1
IC4A0
TP4M1
C4C3
.068
IC4A0
MN67492
MSB5
SI
CPFGIN
VSS
PGMM
CIR
VRI
YFG
YPG
0.1V
2.7V
(1.9V)
2.6V
1.7V
2.4V
2.9V
2.4V
C4C6
6.3V
47μ
C4C5
Z-
.022
C4C4
Z-.01
C4C7
50V
1μ
AMP
DIV
CLOCK
CAP PHASE
GAIN CONTROL
CAP SPEED
DRUM SPEED
DRUM PHASE
PWM
MM
FF
REC CTL
CLAMP
PCTL LOGIC
SERIAL DECODER
REF
I/O
COD
⑭PLAY
0.6Vp-p(V)
⑬PLAY
2.8Vp-p
(TIME/DIV0.5m sec)

Drum Servo System

Capstan Servo System

(CG/VPS) ⚠PC

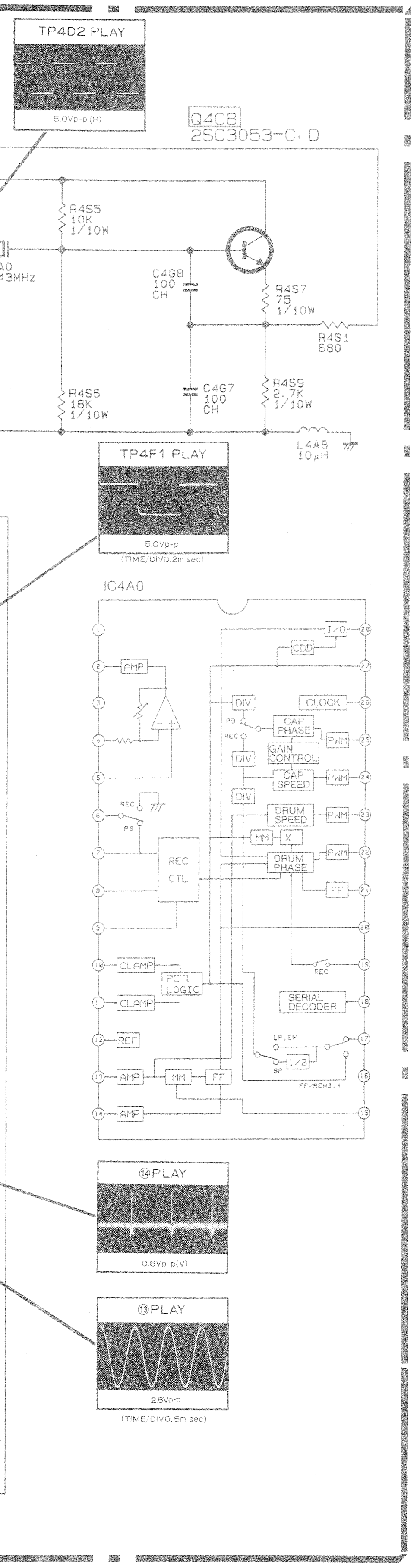

10
11
12
13
14
15
TO Y/C
PRE-CG
C-SYNC
POST-CG
EXT
L1/L2
VIDEO-IN
TP5J6
L501
100μH
D501
1SS252
/1SS131
C501
C-3
CH
C502
C-3
CH
X501
17.734475MHZ
C503
16V
100μ
R516
100K
1/10W
R517
F-510K
1/10W
D502
1SS252
/1SS131
R518
F-5.6K
1/10W
R519
F-3.9K
1/10W
C513
50V
1μ
C514
50V
4.7μ
C511
K-8200
C512
K-8200
R520
22K
1/10W
Q506
2SC3052-G
L502
J-15μH
C504
22
CH
C505
22
CH
IC501
M35013-050SP
VDD1
VSYN1
H-SYNC
OSC-IN
OSC-OUT
0-50/60
O-EXT
O-EXT-L2
O-BLBK
VSS
OSC1
OSC2
CS
SCK
SI
RES
VDD2
CG-VIDEO
LECHA
VIDEO
R512
680
1/10W
R509
10K
1/10W
R511
F-1.8K
1/10W
R510
1/10W
A
L504
J-27μH
C507
47
SL
R503
12K
1/10W
Q505
Q503
R504
2.2K
1/10W
R505
33K
1/10W
Q504
R508
12K
1/10W
C508
K-.047
50V/25V
L503
100μH
C506
6.3V
100μ
R506
10K
1/10W
C509
Z-.01
R507
18K
1/10W
R515
220
1/10W
R521
3.9K
1/10W
C530
K-1500
R522
22K
1/10W
Q507
2SC3052-G
R502
330
1/10W
B
L551
100μH
C556
Z-.01
R551
2.2K
1/10W
C552
.033
R552
1M
1/10W
C551
150
SL
R553
100K
1/10W
C553
16V
100μ
R554
6.8K
1/10W
R555
1.2M
1/10W
C554
2200
R556
6.8K
1/10W
R557
1.2M
1/10W
C555
.033
IC551
SDA5649
VDD
CVBS
IREF
VCO1
PD2/VCO2
PD1
TI
VSS
I2C-CLK
I2C-DATA
CSO
VCS
DAVN
EHB
STBY5
SW5
I2C-CLK
I2C-DATA
DAVN
H-SYNC
V-SYNC-L
VSYNC
CG-CLK
RESET
CG-CS
CG-DATA
50/60HZ
TO MC
IS
22K
22K
DTC124EK
IC501 M35013-050SP
OSC1 OSC2
HOR
INPUT CONTROLLER
DISPLAY OSCILLATOR
DATA CONTROLLER
ADDRESS CONTROLLER
TIMING GENERATOR
H COUNTER
DISPLAY POSITION DETECTOR
DISPLAY CONTROL REGISTER
POP ADDRESS CONTROLLER
DISPLAY DATA MEMORY
DISPLAY CONTROLLER
DISPLAY CHARACTER ROM
SHIFT REGISTER
BLINKING
VDD1
AC
Vss
VDD2

○ : Employed × : Not employed

MODEL \ SYMBOL	A	R517	B	R510
HS-651V(Y)	○	×	×	390
HS-651V(B)	×	×	○	0Ω
HS-651V(E)	○	×	○	390
HS-651V(IR)	×	×	○	0Ω
HS-651V(G)	○	×	○	390
HS-651V(A)	×	○	×	0Ω
HS-651V(NZ)	×	×	×	0Ω

All NPN transistors are 2SC3052-E, F unless otherwise specified.
All PNP transistors are 2SA1235-E, F unless otherwise specified.

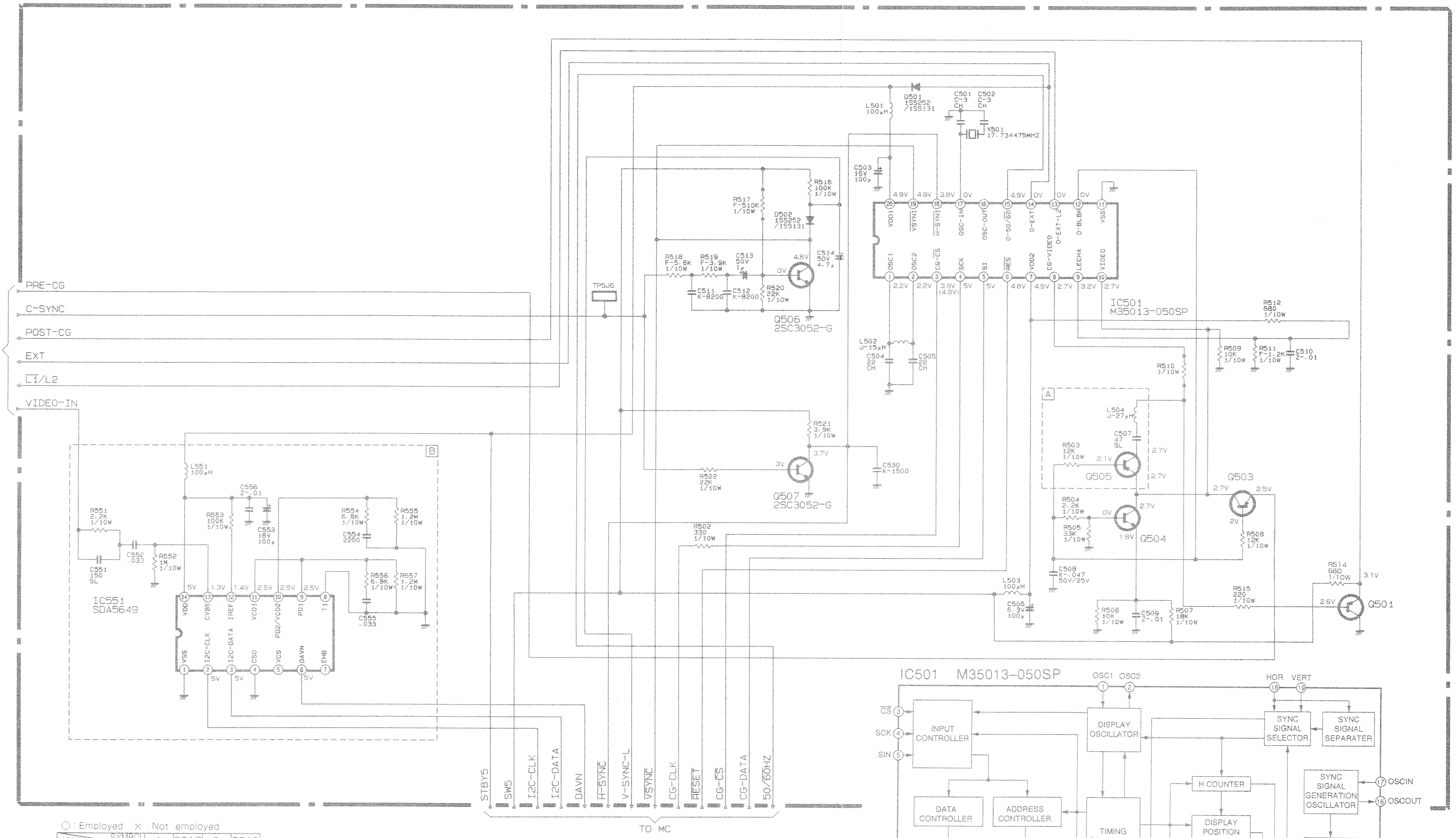
RVO) ⚠PCB-MAIN


TP4D2 PLAY
5.0Vp-p(H)
Q4C8
2SC3053-C.D
R4S5 10K 1/10W
C4G8 100 CH
R4S7 75 1/10W
R4S1 680
R4S6 18K 1/10W
C4G7 100 CH
R4S9 2.7K 1/10W
L4A8 10μH
TP4F1 PLAY
5.0Vp-p
(TIME/DIV0.2m sec)
IC4A0
AMP
CLOCK
CAP PHASE
GAIN CONTROL
CAP SPEED
DRUM SPEED
DRUM PHASE
REC CTL
CLAMP
PCTL LOGIC
SERIAL DECODER
REF
MM
FF
⑭PLAY
0.6Vp-p(V)
⑫PLAY
2.8Vp-p
(TIME/DIV0.5m sec)

Drum Servo System

Capstan Servo System

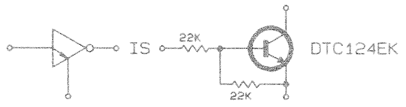
(CG/VPS) ⚠PCB-MAIN


TO Y/C
PRE-CG
C-SYNC
POST-CG
EXT
L1/L2
VIDEO-IN
TP5J6
D501 1SS252 /1SS131
L501 100μH
C501 C-3 CH
C502 C-3 CH
X501 17.734475MHZ
C503 16V 100μ
R516 100K 1/10W
R517 F-510K 1/10W
D502 1SS252 /1SS131
R518 F-5.6K 1/10W
R519 F-3.9K 1/10W
C513 50V 1μ
C514 50V 4.7μ
C511 K-8200
C512 K-8200
R520 22K 1/10W
Q506 2SC3052-G
IC501 M35013-050SP
VDD1 VSYNI H-SYNI OSC-IN OSC-OUT 0-50/60 0-EXT 0-EXT-L2 0-BLBK VSS
OSC1 OSC2 CG-CS SCK SI RES VDD2 CG-VIDEO LECHA VIDEO
R512 680 1/10W
L502 J-15μH
C504 22 CH
C505 22 CH
R509 10K 1/10W
R511 F-1.2K 1/10W
C510 Z-.01
R510 1/10W
R521 3.9K 1/10W
C530 K-1500
R522 22K 1/10W
Q507 2SC3052-G
L504 J-27μH
C507 47 SL
R503 12K 1/10W
Q505
Q503
R504 2.2K 1/10W
R505 33K 1/10W
Q504
R508 12K 1/10W
R502 330 1/10W
C508 K-.047 50V/25V
L503 100μH
C506 6.3V 100μ
R506 10K 1/10W
C509 Z-.01
R507 18K 1/10W
R514 680 1/10W
R515 220 1/10W
Q501
R551 2.2K 1/10W
C551 150 SL
C552 .033
R552 1M 1/10W
L551 100μH
R553 100K 1/10W
C556 Z-.01
C553 16V 100μ
R554 6.8K 1/10W
C554 2200
R555 1.2M 1/10W
R556 6.8K 1/10W
R557 1.2M 1/10W
C555 .033
IC551 SDA5649
VDD CVBS IREF VCO1 PD2/VCO2 PD1 T1
VSS I2C-CLK I2C-DATA CSO VCS DAVN EHB
STBY5 SW5 I2C-CLK I2C-DATA DAVN H-SYNC V-SYNC-L VSYNC CG-CLK RESET CG-CS CG-DATA 50/60HZ
TO MC

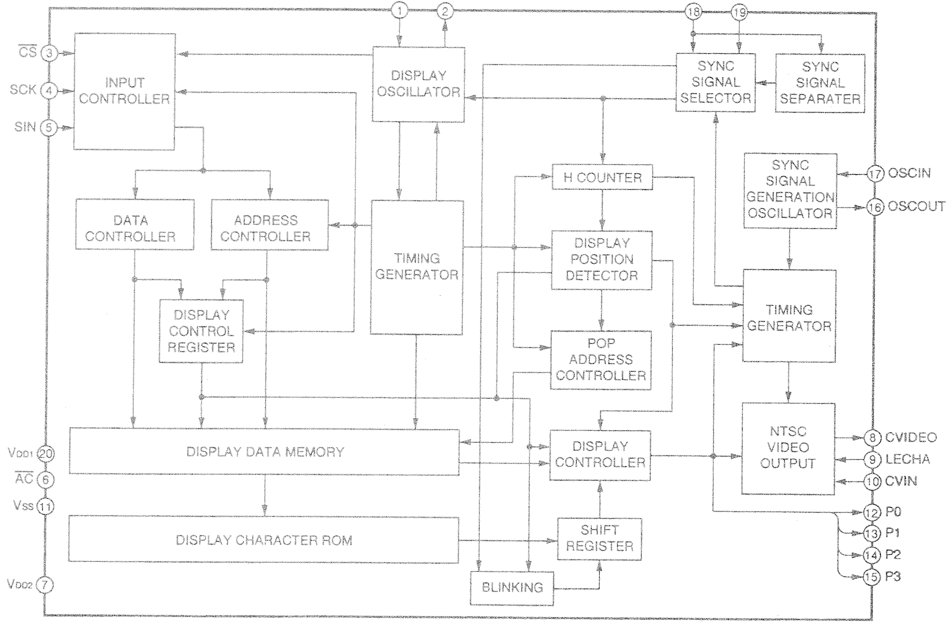
MODEL \ SYMBOL	A	R517	B	R510
HS-651V(Y)	○	×	×	390
HS-651V(B)	×	×	○	0Ω
HS-651V(E)	○	×	○	390
HS-651V(IR)	×	×	○	0Ω
HS-651V(G)	○	×	○	390
HS-651V(A)	×	○	×	0Ω
HS-651V(NZ)	×	×	×	0Ω

○ : Employed × : Not employed

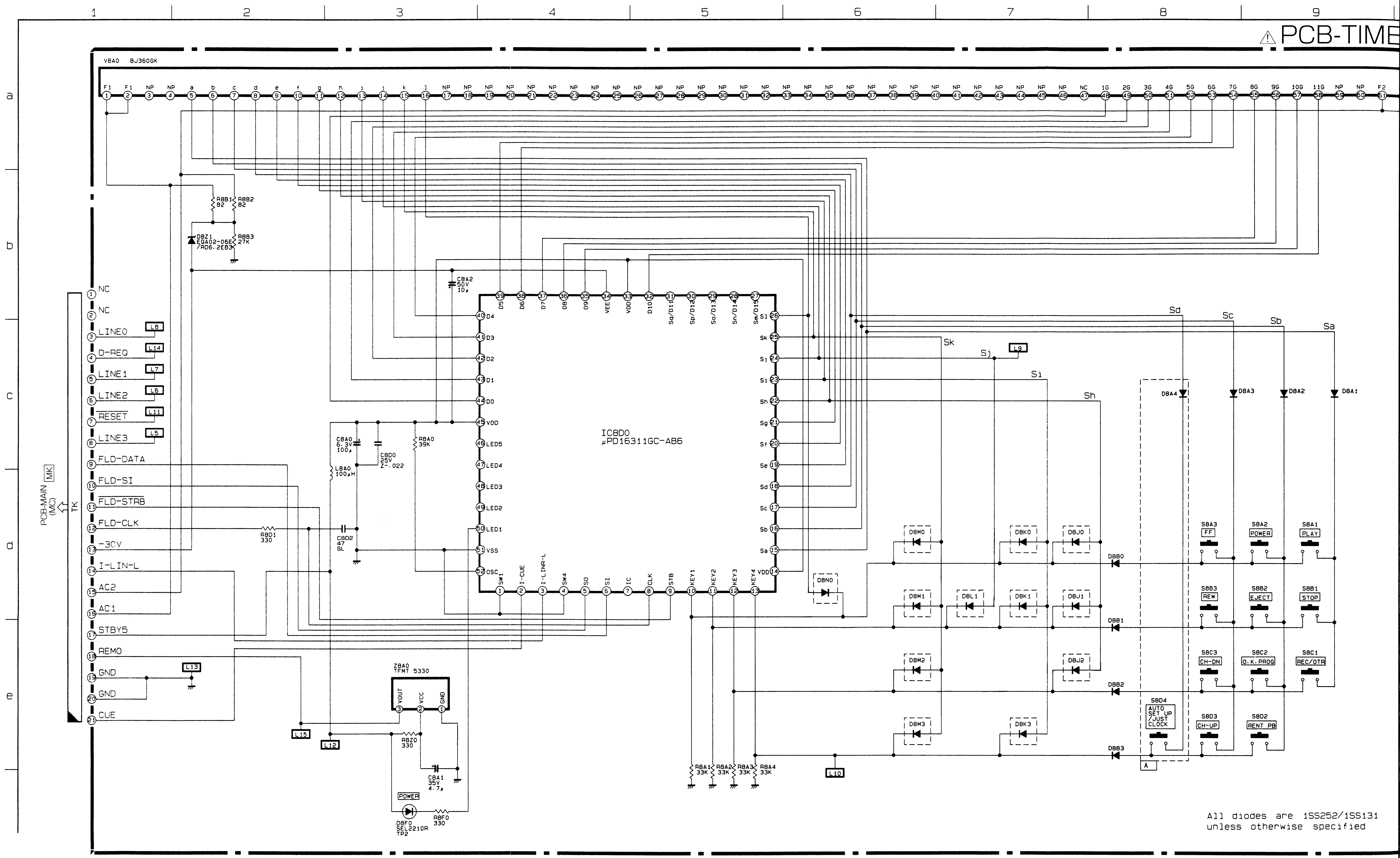
All NPN transistors are 2SC3052-E.F
unless otherwise specified.
All PNP transistors are 2SA1235-E.F
unless otherwise specified.


IS
22K
22K
DTC124EK

IC501 M35013-050SP

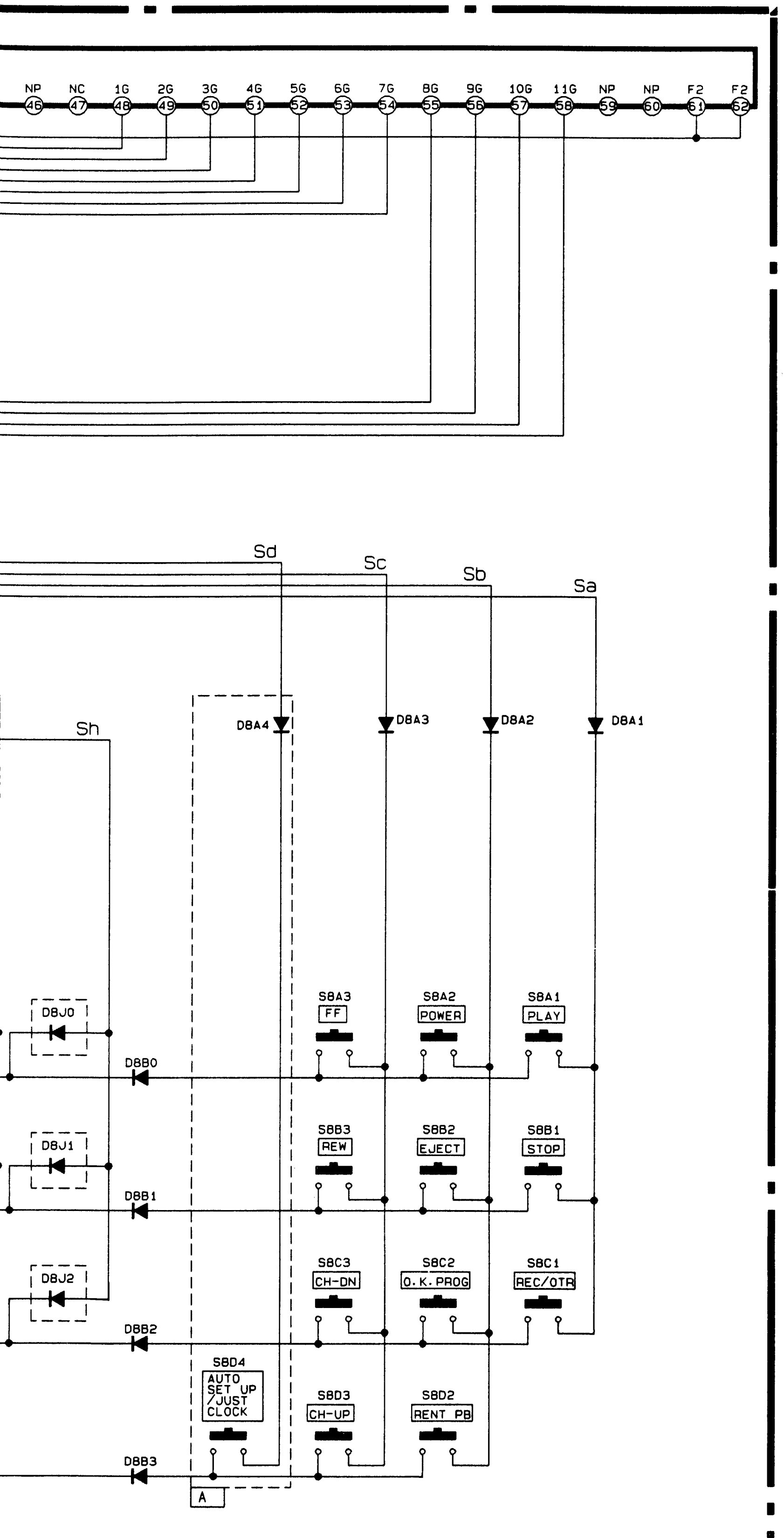

OSC1 OSC2
HOR VERT
CS
SCK
SIN
INPUT CONTROLLER
DISPLAY OSCILLATOR
SYNC SIGNAL SELECTOR
SYNC SIGNAL SEPARATER
H COUNTER
SYNC SIGNAL GENERATION OSCILLATOR
OSCIN
OSCOUT
DATA CONTROLLER
ADDRESS CONTROLLER
TIMING GENERATOR
DISPLAY POSITION DETECTOR
DISPLAY CONTROL REGISTER
POP ADDRESS CONTROLLER
TIMING GENERATOR
NTSC VIDEO OUTPUT
CVIDEO
LECHA
CVIN
VDD1
AC
VSS
DISPLAY DATA MEMORY
DISPLAY CONTROLLER
DISPLAY CHARACTER ROM
SHIFT REGISTER
BLINKING
VDD2
P0
P1
P2
P3

⚠PCB-TIME


1
2
3
4
5
6
7
8
9
a
b
c
d
e
V8A0 BJ360GK
F1
F2
1G
2G
3G
4G
5G
6G
7G
8G
9G
10G
11G
NP
NC
R8B1 82
R8B2 82
R8B3 27K
D8Z1 EQA02-06E /RD6.2EB3
C8A2 50V 10μ
IC8D0
μPD16311GC-AB6
D5
D6
D7
D8
D9
VEE
VDD
D10
Sq/D11
Sp/D12
So/D13
Sn/D14
Sm/D15
S1
Sk
Sj
Si
Sh
Sg
Sf
Se
Sd
Sc
Sb
Sa
D4
D3
D2
D1
D0
LED5
LED4
LED3
LED2
LED1
VSS
OSC
SW1
I-CUE
I-LINA-L
SW4
SO
SI
IC
CLK
STB
KEY1
KEY2
KEY3
KEY4
C8A0 6.3V 100μ
C8D0 25V Z-.022
R8A0 39K
L8A0 100μH
C8D2 47 SL
R8D1 330
NC
LINE0
D-REQ
LINE1
LINE2
RESET
LINE3
FLD-DATA
FLD-SI
FLD-STRB
FLD-CLK
-3CV
I-LIN-L
AC2
AC1
STBY5
REMO
GND
GND
CUE
L8
L14
L7
L6
L11
L5
L13
L15
L12
L9
L10
PCB-MAIN (MC)
MK
TK
Z8A0 TFMT 5330
VOUT
VCC
GND
R8Z0 330
C8A1 35V 4.7μ
POWER
D8F0 SEL2210R TP2
R8F0 330
D8A4
D8A3
D8A2
D8A1
D8M0
D8M1
D8M2
D8M3
D8N0
D8L1
D8K0
D8K1
D8K3
D8J0
D8J1
D8J2
D8B0
D8B1
D8B2
D8B3
R8A1 33K
R8A2 33K
R8A3 33K
R8A4 33K
S8A3 FF
S8A2 POWER
S8A1 PLAY
S8B3 REW
S8B2 EJECT
S8B1 STOP
S8C3 CH-DN
S8C2 O.K.PROG
S8C1 REC/OTR
S8D4 AUTO SET UP /JUST CLOCK
S8D3 CH-UP
S8D2 RENT PB
A

All diodes are 1SS252/1SS131 unless otherwise specified

⚠ PCB-TIMER


NP
NC
1G
2G
3G
4G
5G
6G
7G
8G
9G
10G
11G
NP
NP
F2
F2
Sd
Sc
Sb
Sa
Sh
D8A4
D8A3
D8A2
D8A1
D8J0
D8B0
D8J1
D8B1
D8J2
D8B2
D8B3
S8A3 FF
S8A2 POWER
S8A1 PLAY
S8B3 REW
S8B2 EJECT
S8B1 STOP
S8C3 CH-DN
S8C2 O.K.PROG
S8C1 REC/OTR
S8D4 AUTO SET UP /JUST CLOCK
S8D3 CH-UP
S8D2 RENT PB
A

All diodes are 1SS252/1SS131 unless otherwise specified

FUNCTION SELECTOR MAP

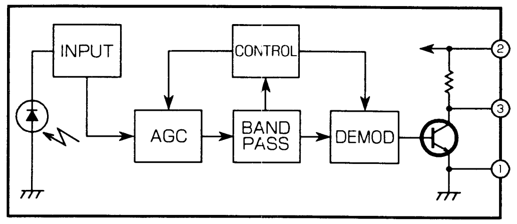
	D8N0	D8M0		D8K0	D8J0
E, A	JOGREMO	NICAM		MESECAM	PDC
G, Y	——	——		——	VPS
B, IR	——	——		U-ONLY	PDC
NZ	JOGREMO	——		——	PDC

	D8N1	D8M1	D8L1	D8K1	D8J1
E, A	——	A2	SHOWVIEW	C+ SCRT	CCIR
G, Y	——	——	——	——	——
B, IR	——	——	——	——	SAT-CONT
NZ	——	——	——	——	——

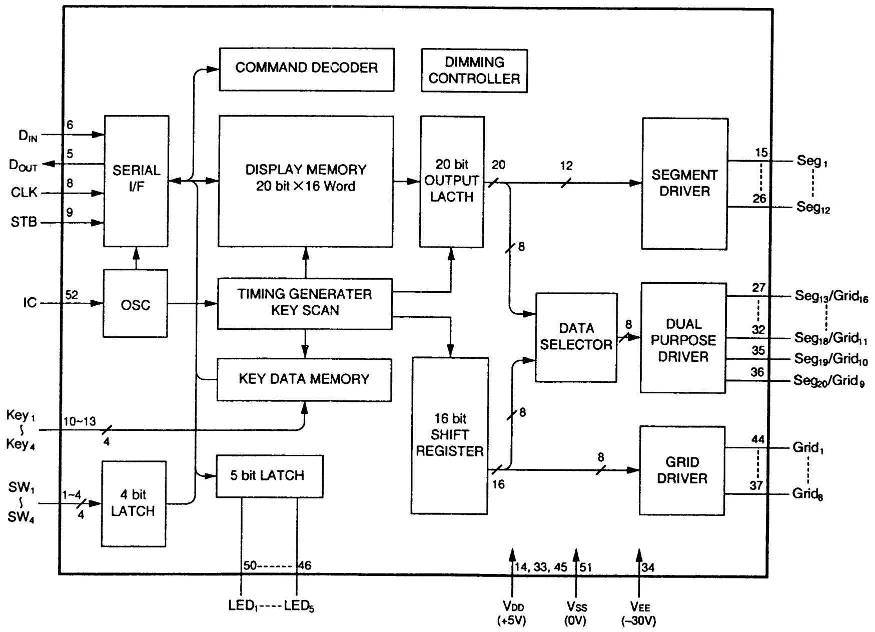
		D8M2			D8J2
E, A		ANT			JUST CLK
G, Y		——			A.S.U
B, IR		——			A.S.U
NZ		——			——

		D8M3		D8K3	D8J3
E, A		551		ENGLISH	——
G, Y		551		——	——
B, IR		551		3-BAND	——
NZ		551		——	——

Z8A0 PREAMAP


INPUT
CONTROL
AGC
BAND PASS
DEMOD
2
3
1

IC8D0 μPD16311GC–AB6

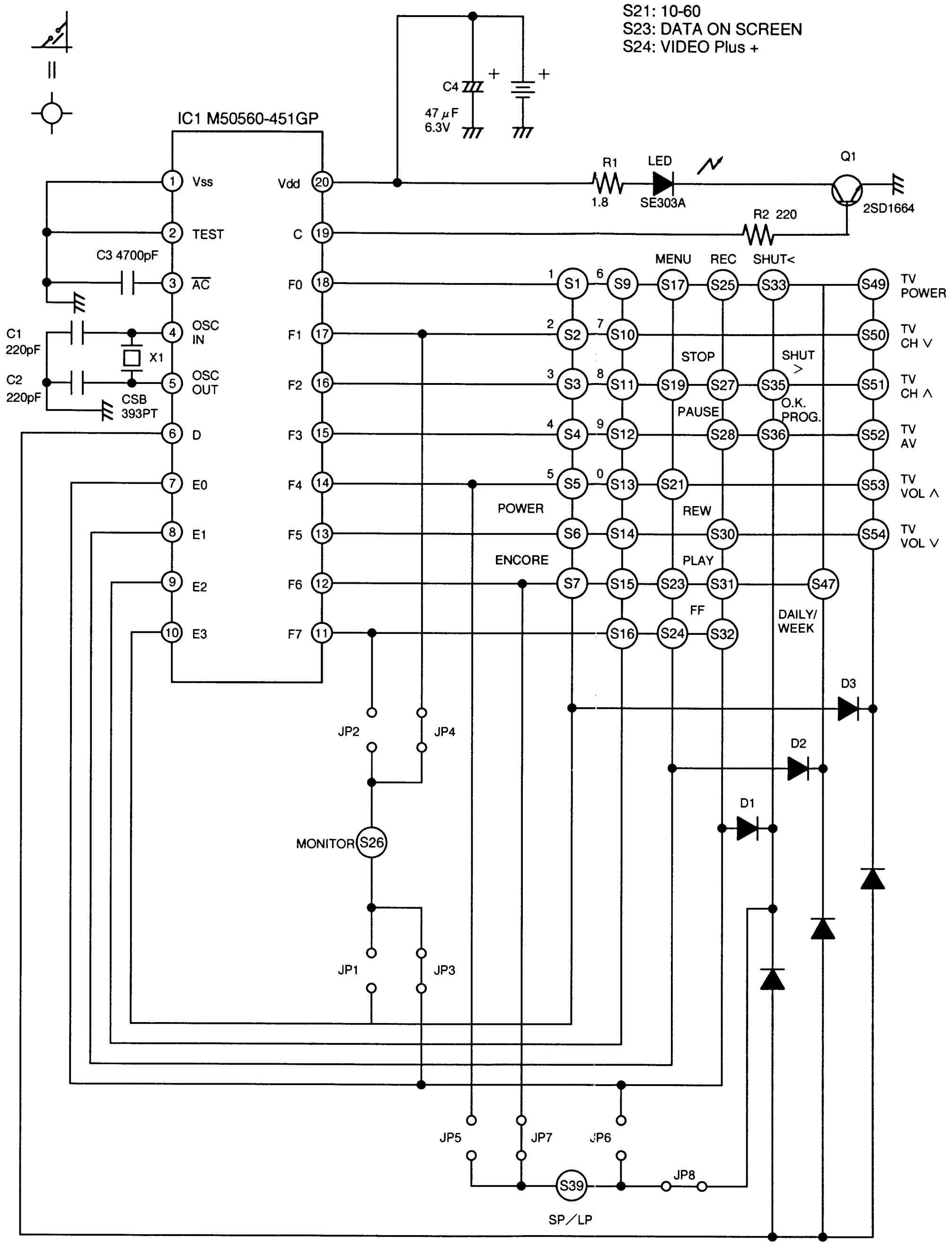

COMMAND DECODER
DIMMING CONTROLLER
D_IN
D_OUT
CLK
STB
6
5
8
9
SERIAL I/F
DISPLAY MEMORY 20 bit × 16 Word
20 bit OUTPUT LACTH
20
12
SEGMENT DRIVER
15
26
Seg1
Seg12
IC
52
OSC
TIMING GENERATER KEY SCAN
8
DATA SELECTOR
DUAL PURPOSE DRIVER
27
32
35
36
Seg13/Grid16
Seg18/Grid11
Seg19/Grid10
Seg20/Grid9
KEY DATA MEMORY
Key1 ∫ Key4
10–13
4
16 bit SHIFT REGISTER
8
16
GRID DRIVER
44
37
Grid1
Grid8
SW1 ∫ SW4
1–4
4
4 bit LATCH
5 bit LATCH
50------46
LED1----LED5
14, 33, 45
51
34
VDD (+5V)
VSS (0V)
VEE (–30V)

○ : Employed × : Not employed

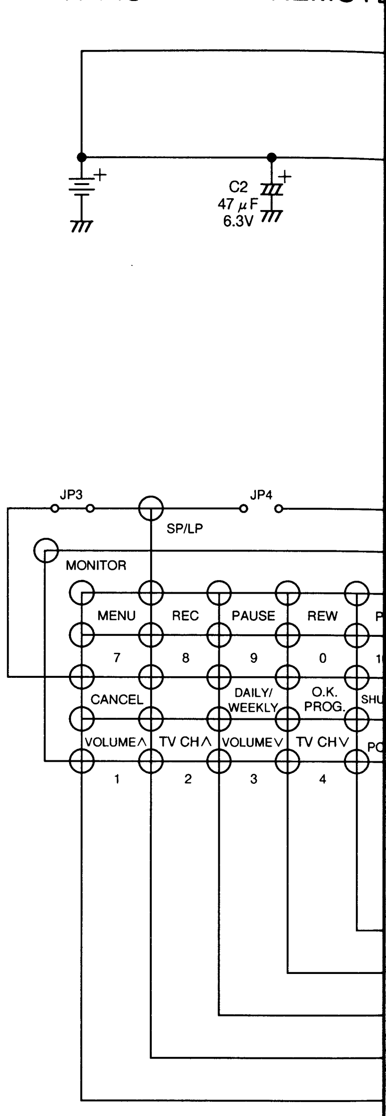
SYMBOL	D8J0	D8J1	D8J2	D8K0	D8K1	D8K3	D8L1	D8M0	D8M1	D8M2	D8N0	A
MODEL \ ADDRESS	d-7	d-7	e-7	d-7	d-7	e-7	d-7	d-6	d-6	e-6	d-6	d-11
HS-651V(Y)	×	×	×	×	×	×	×	×	×	×	×	×
HS-651V(B)	○	○	○	○	×	×	×	×	×	×	×	○
HS-651V(G)	○	×	○	×	×	×	×	×	×	×	×	○
HS-651V(IR)	×	×	○	×	×	×	×	×	×	×	×	○
HS-651V(E)	○	×	○	○	○	×	○	○	○	×	×	○
HS-651V(A)	×	×	×	×	×	○	×	×	○	○	×	×
HS-651V(NZ)	×	×	×	×	×	×	×	×	×	×	○	×

HS–651V(Y)/V(E)/V(IR)
TRANSMITTER REMOTE CONTROL

S14: CANCEL
S15: JOG/CHANNEL -
S16: JOG/CHANNEL +
S19: CT-RES/NEXT
S21: 10-60
S23: DATA ON SCREEN
S24: VIDEO Plus +


IC1 M50560-451GP
C4 47μF 6.3V
Vss
TEST
AC
OSC IN
OSC OUT
D
E0
E1
E2
E3
Vdd
C
F0
F1
F2
F3
F4
F5
F6
F7
C3 4700pF
C1 220pF
C2 220pF
X1
CSB 393PT
R1 1.8
LED SE303A
Q1 2SD1664
R2 220
MENU
REC
SHUT<
STOP
SHUT >
PAUSE
O.K. PROG.
POWER
ENCORE
REW
PLAY
FF
DAILY/ WEEK
TV POWER
TV CH ∨
TV CH ∧
TV AV
TV VOL ∧
TV VOL ∨
S1
S2
S3
S4
S5
S6
S7
S9
S10
S11
S12
S13
S14
S15
S16
S17
S19
S21
S23
S24
S25
S27
S28
S30
S31
S32
S33
S35
S36
S47
S49
S50
S51
S52
S53
S54
JP1
JP2
JP3
JP4
JP5
JP6
JP7
JP8
MONITOR S26
S39 SP/LP
D1
D2
D3

HS–651V(B)/V(G)/V(A)/V(NZ)
TRANSMITTER REMOTE


C2 47μF 6.3V
JP3
JP4
SP/LP
MONITOR
MENU
REC
PAUSE
REW
7
8
9
0
CANCEL
DAILY/ WEEKLY
O.K. PROG.
VOLUME∧
TV CH∧
VOLUME∨
TV CH∨
1
2
3
4

MER

FUNCTION SELECTOR MAP

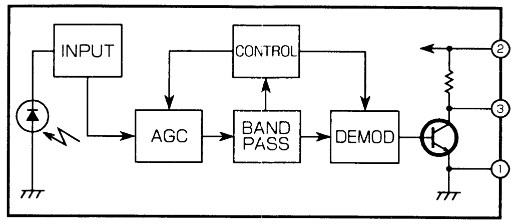
	D8N0	D8M0		D8K0	D8J0
E. A	JOGREMO	NICAM		MESECAM	PDC
G. Y	——	——		——	VPS
B. IR	——	——		U-ONLY	PDC
NZ	JOGREMO	——		——	PDC

	D8N1	D8M1	D8L1	D8K1	D8J1
E. A	——	A2	SHOWVIEW	C+ SCRT	CCIR
G. Y	——	——	——	——	——
B. IR	——	——	——	——	SAT-CONT
NZ	——	——	——	——	——

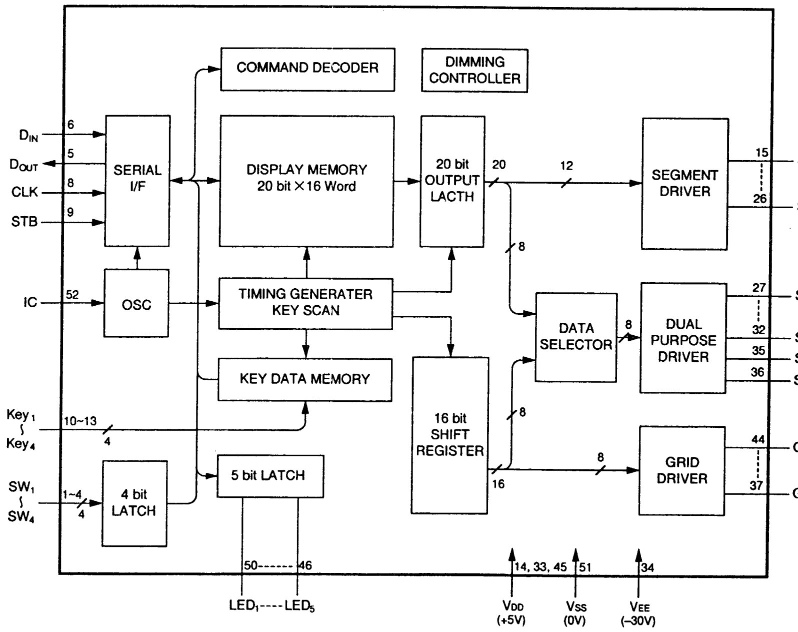
		D8M2			D8J2
E. A		ANT			JUST CLK
G. Y		——			A. S. U
B. IR		——			A. S. U
NZ		——			——

		D8M3		D8K3	D8J3
E. A		551		ENGLISH	——
G. Y		551		——	——
B. IR		551		3-BAND	——
NZ		551		——	——

Z8A0 PREAMAP


INPUT
CONTROL
AGC
BAND PASS
DEMOD
2
3
1

IC8D0 μPD16311GC--AB6

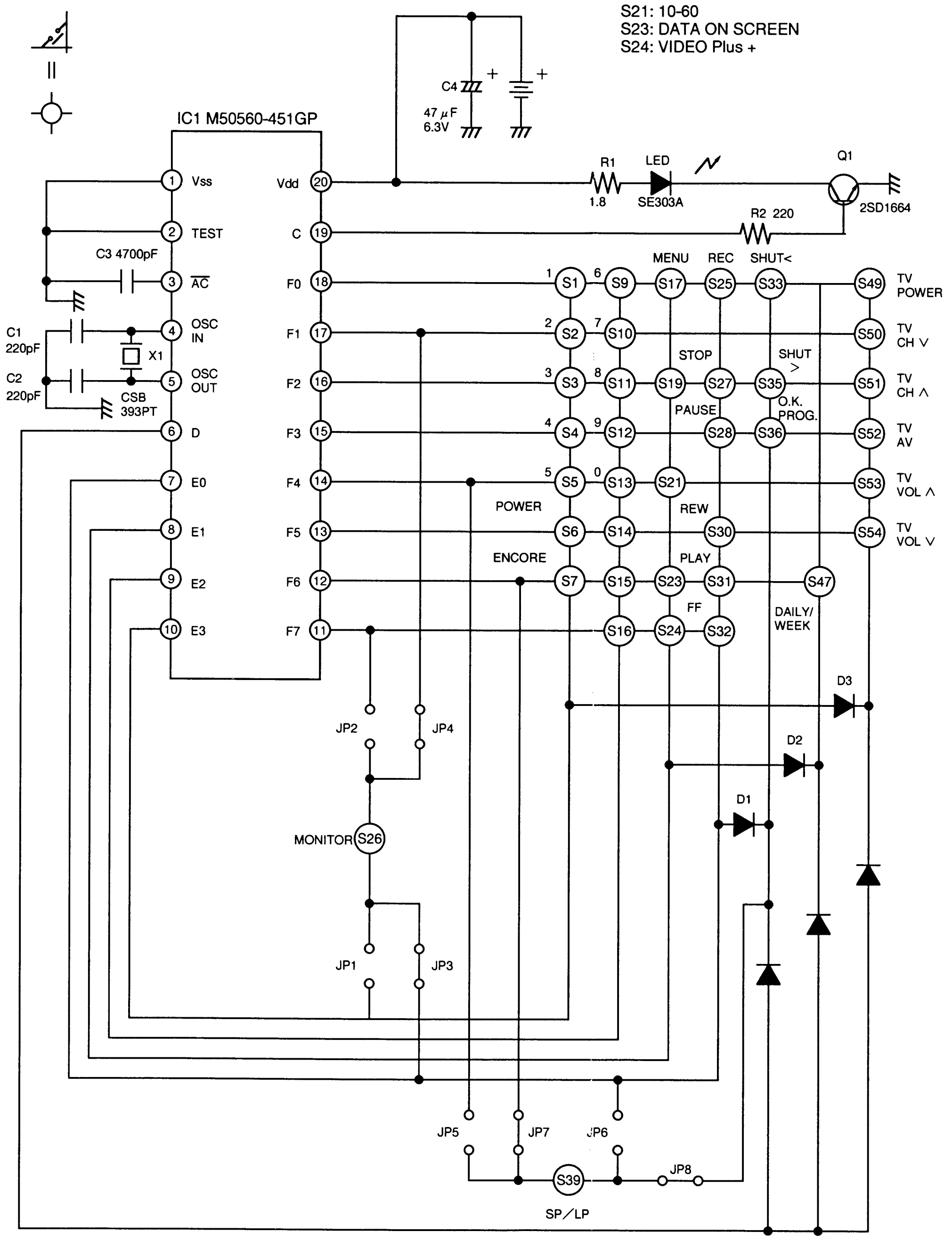

COMMAND DECODER
DIMMING CONTROLLER
D_IN 6
D_OUT 5
CLK 8
STB 9
SERIAL I/F
DISPLAY MEMORY 20 bit ×16 Word
20 bit OUTPUT LACTH
20
12
8
SEGMENT DRIVER
15
26
Seg1
Seg12
IC 52
OSC
TIMING GENERATER KEY SCAN
DATA SELECTOR
8
DUAL PURPOSE DRIVER
27
32
35
36
Seg13/Grid16
Seg18/Grid11
Seg19/Grid10
Seg20/Grid9
KEY DATA MEMORY
Key1 ~ Key4 10~13 4
16 bit SHIFT REGISTER
8
16
GRID DRIVER
44
37
Grid1
Grid8
SW1 ~ SW4 1~4 4
4 bit LATCH
5 bit LATCH
50------46
LED1----LED5
14, 33, 45
51
34
VDD (+5V)
VSS (0V)
VEE (–30V)

○ : Employed × : Not employed

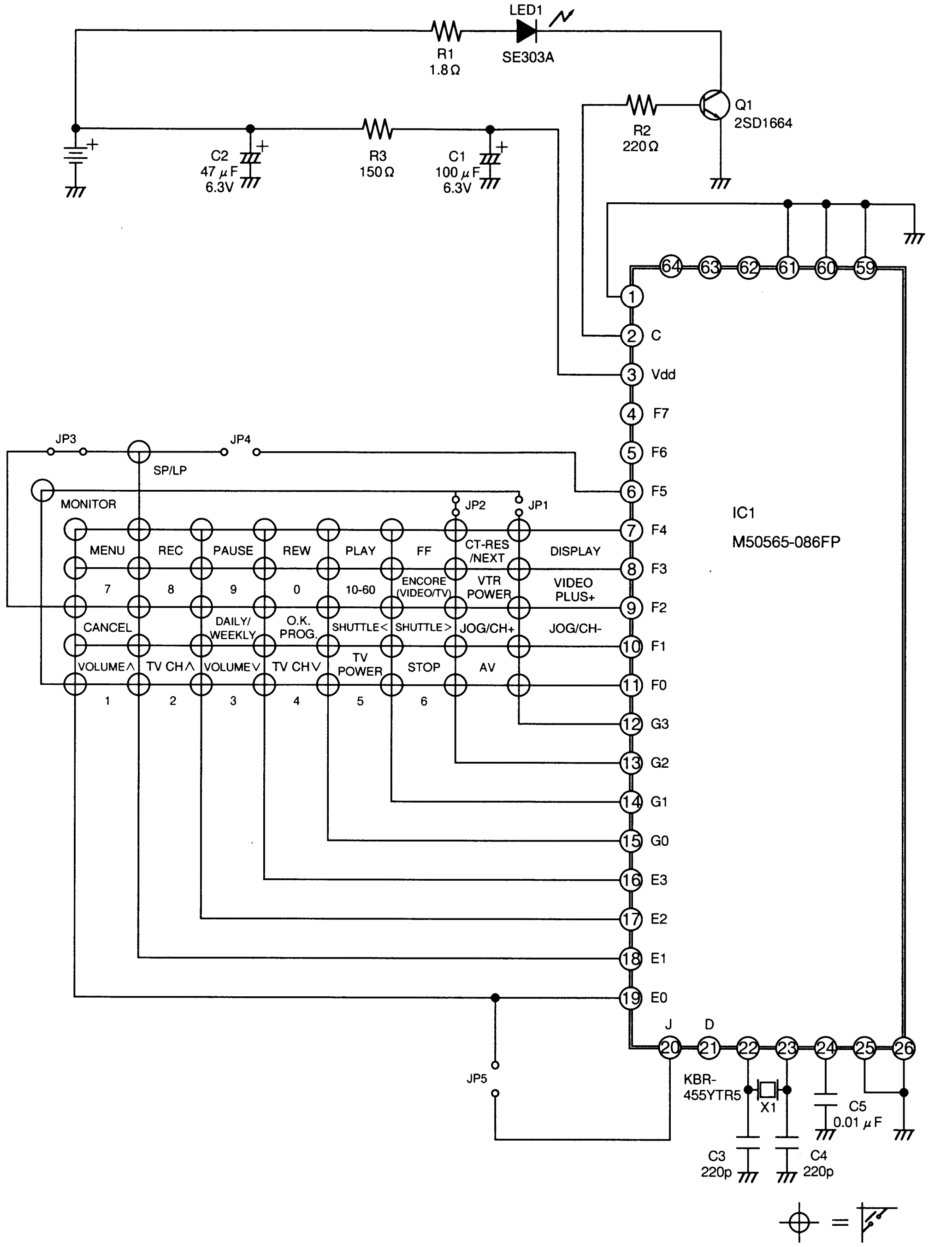
SYMBOL / MODEL ╲ ADDRESS	D8J0	D8J1	D8J2	D8K0	D8K1	D8K3	D8L1	D8M0	D8M1	D8M2	D8N0	A
	d-7	d-7	e-7	d-7	d-7	e-7	d-7	d-6	d-6	e-6	d-6	d-11
HS-651V(Y)	×	×	×	×	×	×	×	×	×	×	×	×
HS-651V(B)	○	○	○	○	×	×	×	×	×	×	×	○
HS-651V(G)	○	×	○	×	×	×	×	×	×	×	×	○
HS-651V(IR)	×	×	○	×	×	×	×	×	×	×	×	○
HS-651V(E)	○	×	○	○	○	×	○	○	○	×	×	○
HS-651V(A)	×	×	×	×	×	○	×	×	○	○	×	×
HS-651V(NZ)	×	×	×	×	×	×	×	×	×	×	○	×

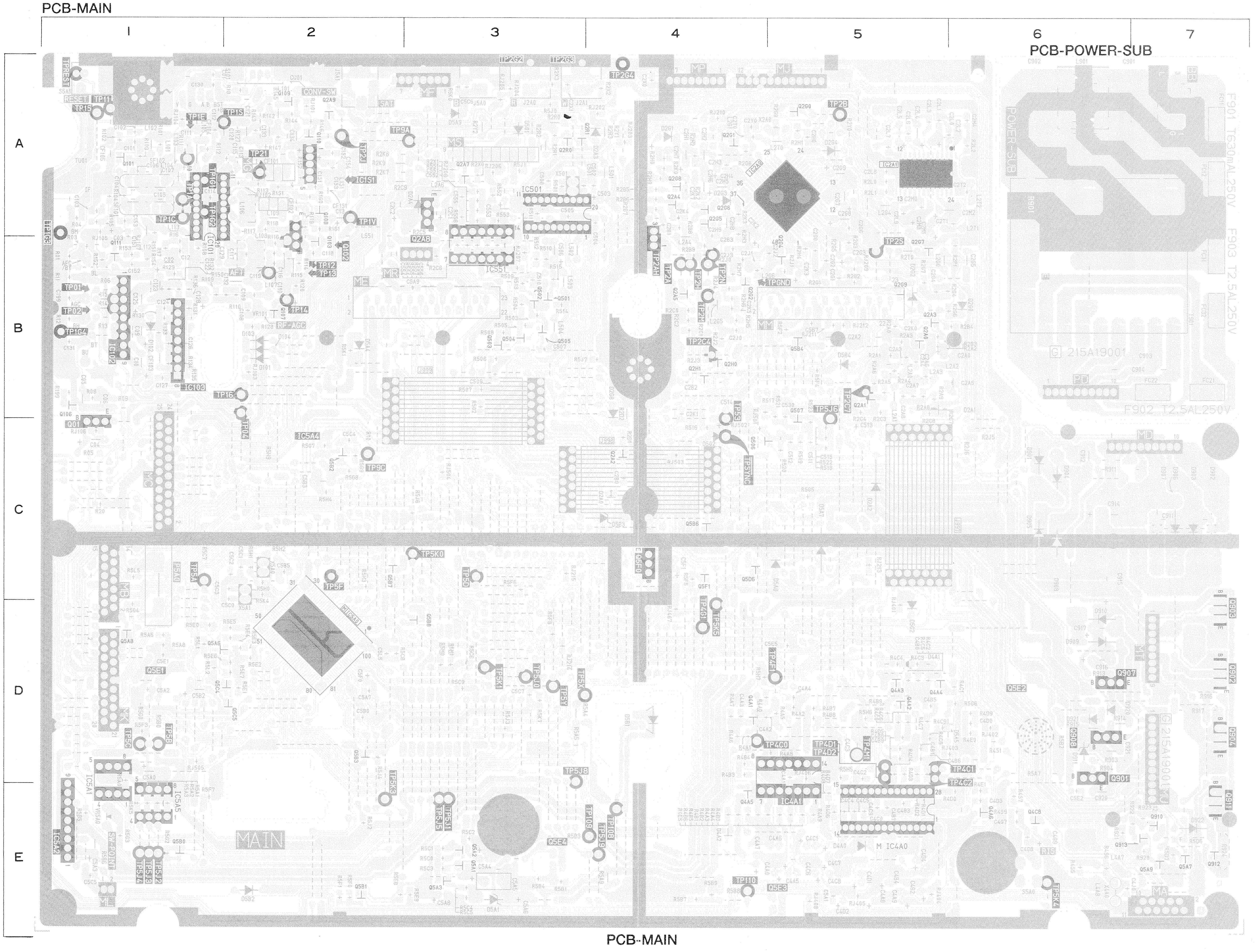
HS–651V(Y)/V(E)/V(IR)
TRANSMITTER REMOTE CONTROL

S14: CANCEL
S15: JOG/CHANNEL -
S16: JOG/CHANNEL +
S19: CT-RES/NEXT
S21: 10-60
S23: DATA ON SCREEN
S24: VIDEO Plus +


II
IC1 M50560-451GP
C4 47 μF 6.3V
1 Vss
2 TEST
3 AC
4 OSC IN
5 OSC OUT
6 D
7 E0
8 E1
9 E2
10 E3
Vdd 20
C 19
F0 18
F1 17
F2 16
F3 15
F4 14
F5 13
F6 12
F7 11
C3 4700pF
C1 220pF
C2 220pF
X1
CSB 393PT
R1 1.8
LED SE303A
Q1 2SD1664
R2 220
MENU
REC
SHUT<
STOP
SHUT >
PAUSE
O.K. PROG.
POWER
REW
ENCORE
PLAY
FF
DAILY/ WEEK
S1
S2
S3
S4
S5
S6
S7
S9
S10
S11
S12
S13
S14
S15
S16
S17
S19
S21
S23
S24
S25
S27
S28
S30
S31
S32
S33
S35
S36
S47
S49
S50
S51
S52
S53
S54
TV POWER
TV CH ∨
TV CH ∧
TV AV
TV VOL ∧
TV VOL ∨
1
2
3
4
5
6
7
8
9
0
D1
D2
D3
JP1
JP2
JP3
JP4
JP5
JP6
JP7
JP8
MONITOR S26
S39
SP/LP

HS–651V(B)/V(G)/V(A)/V(NZ)
TRANSMITTER REMOTE CONTROL


LED1
R1 1.8Ω
SE303A
Q1 2SD1664
R2 220Ω
C2 47 μF 6.3V
R3 150Ω
C1 100 μF 6.3V
IC1
M50565-086FP
1
2 C
3 Vdd
4 F7
5 F6
6 F5
7 F4
8 F3
9 F2
10 F1
11 F0
12 G3
13 G2
14 G1
15 G0
16 E3
17 E2
18 E1
19 E0
J 20
D 21
22
23
24
25
26
59
60
61
62
63
64
JP1
JP2
JP3
JP4
JP5
SP/LP
MONITOR
MENU
REC
PAUSE
REW
PLAY
FF
CT-RES /NEXT
DISPLAY
7
8
9
0
10-60
ENCORE (VIDEO/TV)
VTR POWER
VIDEO PLUS+
CANCEL
DAILY/ WEEKLY
O.K. PROG.
SHUTTLE<
SHUTTLE>
JOG/CH+
JOG/CH-
VOLUME∧
TV CH∧
VOLUME∨
TV CH∨
TV POWER
STOP
AV
1
2
3
4
5
6
KBR-455YTR5
X1
C3 220p
C4 220p
C5 0.01 μF



PCB-MAIN

SYMBOL NO.	ADDRESS
C01	A – 2
C02	B – 1
C03	B – 1
C04	C – 1
C05	B – 1
C06	B – 1
C09	B – 1
C10	B – 1
C12	B – 1
C13	A – 2
C101	A – 1
C102	A – 1
C103	A – 1
C104	A – 1
C105	A – 1
C106	A – 1
C107	A – 1
C108	B – 2
C109	B – 2
C110	B – 2
C111	A – 1
C112	A – 1
C113	A – 2
C114	A – 1
C115	A – 2
C116	B – 2
C117	B – 2
C118	B – 2
C119	B – 2
C120	A – 2
C121	A – 2
C122	B – 1
C123	B – 1
C124	B – 1
C125	B – 1
C126	B – 1
C127	B – 1
C128	B – 1
C129	B – 2
C130	A – 1
C131	B – 1
C132	B – 2
C133	A – 2
C134	A – 2
C151	B – 1
C152	B – 1
C153	A – 1
C199	B – 1
C501	A – 4
C502	A – 4
C503	A – 4
C504	A – 4
C505	A – 3
C506	B – 3
C507	B – 3
C508	A – 3
C509	B – 3
C510	B – 3
C511	C – 5
C512	C – 5

SYMB NO.
C513
C514
C515
C530
C551
C552
C553
C554
C555
C556
C901
C902
C903
C904
C911
C912
C914
C915
C916
C917
C920
C921
C1S1
C1S2
C1S3
C1S4
C2A0
C2A2
C2A3
C2A4
C2A5
C2A6
C2A7
C2A8
C2B0
C2B1
C2B2
C2B3
C2C1
C2C2
C2G0
C2G1
C2G2
C2G3
C2G4
C2G5
C2G6
C2G7
C2G8
C2G9
C2H0
C2H1
C2H2
C2H3
C2H4
C2H5
C2H6
C2H7
C2H8
C2H9

PCB-MAIN

SYMBOL NO.	ADDRESS
C01	A – 2
C02	B – 1
C03	B – 1
C04	C – 1
C05	B – 1
C06	B – 1
C09	B – 1
C10	B – 1
C12	B – 1
C13	A – 2
C101	A – 1
C102	A – 1
C103	A – 1
C104	A – 1
C105	A – 1
C106	A – 1
C107	A – 1
C108	B – 2
C109	B – 2
C110	B – 2
C111	A – 1
C112	A – 1
C113	A – 2
C114	A – 1
C115	A – 2
C116	B – 2
C117	B – 2
C118	B – 2
C119	B – 2
C120	A – 2
C121	A – 2
C122	B – 1
C123	B – 1
C124	B – 1
C125	B – 1
C126	B – 1
C127	B – 1
C128	B – 1
C129	B – 2
C130	A – 1
C131	B – 1
C132	B – 2
C133	A – 2
C134	A – 2
C151	B – 1
C152	B – 1
C153	A – 1
C199	B – 1
C501	A – 4
C502	A – 4
C503	A – 4
C504	A – 4
C505	A – 3
C506	B – 3
C507	B – 3
C508	A – 3
C509	B – 3
C510	B – 3
C511	C – 5
C512	C – 5

SYMBOL NO.	ADDRESS
C513	C – 5
C514	B – 4
C515	C – 5
C530	B – 5
C551	A – 3
C552	A – 3
C553	A – 3
C554	B – 3
C555	A – 3
C556	B – 3
C901	A – 6
C902	A – 6
C903	B – 7
C904	B – 7
C911	C – 7
C912	C – 6
C914	C – 6
C915	C – 6
C916	D – 6
C917	D – 6
C920	E – 6
C921	D – 6
C1S1	A – 2
C1S2	A – 2
C1S3	A – 2
C1S4	A – 2
C2A0	B – 6
C2A2	B – 5
C2A3	B – 5
C2A4	B – 5
C2A5	B – 6
C2A6	B – 5
C2A7	B – 5
C2A8	B – 5
C2B0	C – 4
C2B1	A – 4
C2B2	B – 4
C2B3	A – 4
C2C1	A – 3
C2C2	A – 2
C2G0	B – 5
C2G1	B – 5
C2G2	B – 5
C2G3	B – 5
C2G4	B – 5
C2G5	B – 6
C2G6	A – 5
C2G7	A – 5
C2G8	A – 5
C2G9	A – 5
C2H0	A – 5
C2H1	A – 4
C2H2	A – 4
C2H3	A – 4
C2H4	A – 4
C2H5	A – 4
C2H6	A – 4
C2H7	A – 4
C2H8	A – 4
C2H9	A – 4

SYMBOL NO.	ADDRESS
C2J0	B – 4
C2J1	B – 4
C2J2	B – 5
C2J3	B – 4
C2K0	B – 5
C2K1	B – 4
C2K2	A – 4
C2K3	B – 5
C2K4	A – 4
C2K5	B – 4
C2K7	A – 4
C2L0	A – 6
C2L1	A – 5
C2L2	A – 6
C2L3	A – 5
C2L4	A – 5
C2L5	A – 5
C2L6	A – 5
C2L7	A – 5
C2L8	A – 5
C2L9	A – 5
C2M0	A – 5
C2M1	A – 5
C2M2	A – 6
C2M3	A – 5
C2M4	A – 6
C2T0	A – 4
C2T1	A – 5
C2T2	A – 6
C2X0	A – 4
C2X1	A – 3
C2Y0	A – 4
C4A0	E – 4
C4A1	D – 5
C4A2	D – 5
C4A3	D – 4
C4A4	D – 5
C4A5	E – 5
C4A6	E – 5
C4A7	E – 4
C4A8	E – 5
C4A9	E – 5
C4B0	D – 5
C4B1	D – 5
C4B2	E – 5
C4B3	E – 5
C4B4	E – 5
C4B5	D – 5
C4B6	D – 5
C4B7	E – 5
C4B8	D – 5
C4B9	D – 5
C4C0	E – 5
C4C1	E – 5
C4C2	D – 5
C4C3	D – 5
C4C4	E – 5
C4C5	E – 5
C4C6	E – 5
C4C7	E – 5

SYMBOL NO.	ADDRESS
C4C8	E – 5
C4C9	E – 5
C4D0	D – 6
C4D1	E – 5
C4D2	E – 5
C4D3	E – 6
C4D4	E – 5
C4G7	E – 6
C4G8	E – 6
C4G9	E – 6
C4J0	E – 6
C5A0	D – 1
C5A1	E – 5
C5A2	D – 1
C5A3	E – 1
C5A4	E – 3
C5A5	E – 3
C5A6	E – 3
C5A7	D – 2
C5A8	E – 3
C5A9	B – 3
C5B0	D – 2
C5B2	D – 1
C5B3	C – 2
C5B5	C – 2
C5B7	B – 5
C5C0	D – 2
C5C1	C – 2
C5C2	C – 2
C5C3	C – 2
C5C4	C – 2
C5C5	E – 1
C5C6	A – 3
C5C7	D – 3
C5E1	D – 1
C5E2	E – 6
C5E5	D – 5
C5F0	D – 2
C5F1	C – 4
C5L5	D – 2
CF101	A – 2
CF102	A – 2
CF103	B – 1
CF104	A – 1
CF105	A – 1
CF1S1	A – 2
CU01	A – 2
D101	B – 2
D102	B – 1
D103	B – 2
D104	B – 2
D501	A – 3
D502	C – 4
D901	C – 6
D902	C – 7
D903	C – 7
D904	C – 6

SYMBOL NO.	ADDRESS
D905	C – 6
D906	C – 7
D907	C – 7
D908	C – 6
D909	D – 6
D910	D – 6
D911	D – 6
D920	D – 6
D921	D – 6
D922	E – 7
D2A0	C – 4
D2A1	B – 6
D2A2	C – 5
D2A3	A – 4
D2A4	A – 3
D2G0	B – 6
D2G1	A – 4
D2G2	B – 5
D2G3	A – 4
D2G4	A – 5
D2G8	B – 4
D4A0	E – 5
D4A1	D – 5
D4A2	E – 4
D5A1	E – 3
D5A4	B – 2
D5A5	D – 5
D5A7	C – 5
D5A8	C – 5
D5A9	A – 3
D5B1	D – 4
D5B2	E – 2
D5B3	C – 4
D5B4	B – 5
D5G2	D – 5
F901	A – 7
F902	B – 7
F903	B – 7
FC11	A – 7
FC12	A – 7
FC21	B – 7
FC22	B – 7
FC31	B – 7
FC32	B – 7
IC101	A – 1
IC102	B – 1
IC103	B – 1
IC501	A – 3
IC551	B – 3
IC1S1	A – 2
IC2A0	A – 5
IC2A1	A – 5
IC4A0	E – 5
IC4A1	E – 5
IC5A0	D – 2
IC5A1	E – 1
IC5A2	E – 1

SYMBOL NO.	ADDRESS
IC5A4	C – 2
IC5A5	E – 1
J997	C – 5
J998	C – 4
J999	B – 3
J2A0	A – 3
J2A1	A – 3
J5A0	A – 3
J5A1	A – 2
L101	A – 1
L101	A – 2
L102	A – 1
L103	A – 1
L104	A – 1
L105	A – 1
L106	A – 2
L107	B – 2
L108	B – 2
L109	A – 2
L112	B – 1
L113	A – 1
L501	A – 4
L502	B – 3
L503	B – 3
L504	B – 3
L551	B – 2
L901	A – 6
L1S1	A – 2
L2A0	B – 5
L2A1	B – 5
L2A2	B – 6
L2A3	B – 5
L2A4	B – 4
L2A6	A – 3
L2G0	B – 5
L2G1	A – 4
L2G4	A – 5
L2G5	B – 4
L2G6	B – 4
L2T0	A – 5
L2T1	A – 6
L2T2	A – 6
L4A7	E – 6
L4A8	E – 6
P5A0	C – 1
Q01	C – 1
Q101	A – 1
Q102	B – 2
Q103	B – 2
Q106	B – 1
Q107	B – 2
Q108	A – 2
Q109	A – 2
Q110	A – 2
Q111	B – 1
Q501	B – 3

SYMBOL NO.	ADDRESS
Q502	B – 3
Q503	B – 3
Q504	B – 3
Q505	B – 3
Q506	C – 4
Q507	B – 5
Q901	D – 6
Q902	D – 7
Q903	D – 7
Q904	D – 7
Q907	D – 6
Q908	D – 6
Q910	E – 7
Q911	E – 7
Q912	E – 7
Q913	E – 7
Q2A0	B – 5
Q2A1	B – 5
Q2A2	C – 4
Q2A3	B – 5
Q2A4	A – 4
Q2A5	B – 4
Q2A7	A – 3
Q2A8	A – 3
Q2A9	A – 2
Q2G0	A – 5
Q2G1	A – 4
Q2G2	B – 4
Q2G4	B – 5
Q2G5	A – 4
Q2G6	A – 4
Q2G7	B – 5
Q2G8	A – 4
Q2G9	B – 5
Q2H0	B – 4
Q2H1	B – 4
Q2R0	A – 3
Q2R1	A – 4
Q4A1	D – 4
Q4A2	D – 5
Q4A3	D – 5
Q4A4	D – 5
Q4A5	E – 4
Q4A6	E – 6
Q4C8	E – 6
Q5A1	E – 3
Q5A2	E – 3
Q5A3	E – 3
Q5A6	D – 2
Q5A7	E – 7
Q5A8	D – 1
Q5A9	E – 7
Q5B0	E – 1
Q5B1	E – 2
Q5B2	C – 2
Q5B3	D – 2
Q5B4	B – 5
Q5B6	C – 4
Q5B7	C – 2
Q5B8	D – 3

SYMBOL NO.	ADDRESS
Q5C4	D – 2
Q5C5	D – 2
Q5D6	C – 4
Q5E1	D – 1
Q5E2	D – 6
Q5E3	E – 5
Q5E4	E – 3
Q5F0	C – 4
Q5F1	C – 4
R01	B – 1
R03	B – 1
R04	A – 1
R05	C – 1
R06	B – 1
R08	B – 1
R09	B – 1
R10	C – 2
R11	B – 1
R12	B – 1
R13	B – 1
R14	B – 1
R15	B – 1
R16	B – 1
R17	B – 1
R18	A – 2
R20	C – 1
R101	A – 1
R102	A – 1
R103	A – 1
R104	A – 1
R105	A – 1
R108	B – 1
R109	B – 1
R110	B – 2
R111	A – 1
R112	A – 1
R113	A – 2
R114	B – 2
R115	B – 2
R116	B – 2
R117	A – 2
R118	A – 2
R119	A – 2
R120	B – 2
R127	A – 2
R128	B – 2
R129	B – 1
R130	B – 1
R131	B – 1
R132	B – 1
R133	B – 1
R134	B – 1
R135	B – 1
R136	B – 1
R142	A – 2
R143	A – 2
R144	A – 2
R145	A – 2
R146	A – 2

SYMBOL NO.	ADDRESS
R147	A – 2
R150	B – 1
R151	B – 1
R152	B – 1
R153	B – 1
R154	B – 1
R160	A – 2
R161	A – 2
R199	B – 1
R501	A – 3
R502	B – 3
R503	B – 3
R504	B – 3
R505	B – 3
R506	B – 3
R507	B – 3
R508	B – 3
R509	B – 3
R510	B – 3
R511	A – 3
R512	B – 3
R513	B – 3
R514	B – 3
R515	B – 3
R516	C – 4
R517	B – 5
R518	C – 5
R519	C – 5
R520	C – 5
R521	B – 5
R522	C – 5
R523	B – 5
R551	A – 3
R552	A – 3
R553	A – 3
R554	B – 3
R555	B – 3
R556	A – 3
R557	B – 3
R901	A – 6
R903	D – 6
R904	D – 6
R911	C – 6
R913	D – 6
R914	D – 6
R915	D – 6
R916	D – 7
R917	D – 7
R920	E – 7
R921	E – 6
R922	E – 6
R923	E – 7
R924	E – 7
R1S1	A – 2
R1S2	A – 2
R2A0	B – 5
R2A1	B – 5
R2A2	B – 6
R2A3	B – 5
R2A4	B – 5

SYMBOL NO.	ADDRESS
R2A5	B – 5
R2A6	B – 5
R2A8	B – 5
R2A9	B – 5
R2B3	B – 6
R2B4	B – 6
R2B5	A – 4
R2B6	A – 4
R2B7	A – 4
R2B8	A – 4
R2B9	B – 4
R2C0	B – 4
R2C1	B – 4
R2C2	B – 4
R2C3	B – 5
R2C4	B – 5
R2C5	A – 3
R2C6	B – 3
R2C7	B – 5
R2C8	B – 5
R2C9	A – 3
R2D1	C – 4
R2D2	B – 4
R2G1	B – 5
R2G2	B – 5
R2G3	B – 5
R2G4	B – 6
R2G5	B – 5
R2G6	B – 6
R2G7	B – 5
R2G8	A – 4
R2G9	A – 5
R2H0	A – 4
R2H1	A – 5
R2H3	A – 4
R2H4	B – 5
R2H5	B – 4
R2H6	B – 4
R2H7	B – 4
R2H9	A – 4
R2J0	B – 4
R2J1	B – 5
R2J2	B – 4
R2J3	B – 4
R2J4	B – 4
R2J5	C – 6
R2J6	C – 6
R2K0	A – 4
R2K2	A – 4
R2K3	A – 4
R2K7	A – 2
R2K8	A – 2
R2K9	A – 2
R2L0	A – 5
R2L1	A – 5
R2L2	A – 6
R2M2	A – 4
R2P1	B – 6
R2R0	A – 3
R2R1	A – 3

SYMBOL NO.	ADDRESS
R2R2	A – 3
R2R3	A – 4
R2T0	B – 5
R2X0	A – 3
R2X1	A – 3
R2X2	A – 4
R2X3	A – 3
R2Y0	A – 5
R2Y1	A – 4
R2Y2	A – 3
R4A0	D – 4
R4A1	D – 4
R4A2	D – 5
R4A3	E – 5
R4A4	E – 5
R4A5	D – 5
R4A6	D – 4
R4A7	D – 4
R4A8	D – 5
R4A9	E – 5
R4B0	E – 5
R4B1	E – 5
R4B2	E – 5
R4B3	D – 4
R4B4	D – 4
R4B5	E – 4
R4B6	E – 4
R4B7	D – 5
R4B8	D – 5
R4B9	D – 5
R4C0	D – 5
R4C1	D – 6
R4C2	D – 5
R4C3	D – 5
R4C4	D – 5
R4C5	D – 5
R4C6	D – 5
R4C7	D – 5
R4C8	D – 5
R4C9	D – 5
R4D0	E – 6
R4D1	D – 5
R4D2	D – 5
R4D3	D – 5
R4D4	D – 5
R4D5	D – 5
R4D6	E – 5
R4D7	D – 5
R4D8	E – 5
R4D9	D – 6
R4E0	D – 6
R4E1	E – 6
R4E5	E – 4
R4S1	D – 6
R4S5	E – 6
R4S6	E – 6
R4S7	E – 6
R4S9	E – 6
R5A0	E – 1
R5A1	E – 1

SYMBOL NO.	ADDRESS
R5A2	E – 1
R5A3	E – 1
R5A4	D – 4
R5A5	D – 3
R5A6	D – 1
R5A7	D – 6
R5A8	D – 1
R5A9	E – 4
R5B0	D – 1
R5B1	E – 3
R5B2	D – 6
R5B3	E – 3
R5B4	E – 3
R5B5	E – 1
R5B6	E – 1
R5B7	E – 4
R5B8	E – 4
R5B9	E – 4
R5C0	E – 3
R5C1	E – 3
R5C2	E – 3
R5C3	E – 3
R5C4	E – 3
R5C5	E – 3
R5C6	D – 3
R5C7	C – 1
R5C8	D – 2
R5C9	D – 3
R5D6	E – 7
R5D7	E – 7
R5E0	D – 1
R5E1	D – 2
R5E2	D – 2
R5E3	D – 2
R5E4	D – 2
R5E5	D – 2
R5E6	D – 2
R5E7	D – 2
R5E8	E – 3
R5E9	E – 3
R5F0	E – 2
R5F1	E – 2
R5F2	B – 5
R5F3	D – 1
R5F4	B – 5
R5F5	C – 4
R5F6	C – 3
R5F7	E – 1
R5F8	D – 3
R5G0	D – 1
R5G2	E – 1
R5G3	E – 1
R5G4	D – 1
R5G5	C – 5
R5G6	D – 6
R5G7	C – 2
R5G8	C – 2
R5G9	C – 2
R5H0	C – 2
R5H1	C – 2

SYMBO NO.
R5H2
R5H3
R5H4
R5H5
R5H6
R5H7
R5H9
R5J0
R5J1
R5J2
R5J3
R5J4
R5J6
R5J7
R5K0
R5K1
R5K4
R5K5
R5K7
R5L1
R5L2
R5L5
R5M0
R5M1
RJ101
RJ102
RJ103
RJ104
RJ105
RJ106
RJ107
RJ202
RJ203
RJ204
RJ205
RJ206
RJ207
RJ208
RJ209
RJ210
RJ211
RJ212
RJ213
RJ214
RJ215
RJ401
RJ402
RJ403
RJ404
RJ405
RJ406
RJ407
RJ408
RJ501
RJ502
RJ503
RJ504
RJ505

ADDRESS
E – 5
E – 5
D – 6
E – 5
E – 5
E – 6
E – 5
E – 6
E – 6
E – 6
E – 6
D – 1
E – 5
D – 1
E – 1
E – 3
E – 3
E – 3
D – 2
E – 3
B – 3
D – 2
D – 1
C – 2
C – 2
B – 5
D – 2
C – 2
C – 2
C – 2
C – 2
E – 1
A – 3
D – 3
D – 1
E – 6
D – 5
D – 2
C – 4
D – 2
A – 2
A – 2
B – 1
A – 1
A – 1
A – 2
A – 2
B – 2
B – 1
B – 2
B – 2
A – 3
C – 4
C – 6
C – 7
C – 7
C – 6

SYMBOL NO.	ADDRESS
D905	C – 6
D906	C – 7
D907	C – 7
D908	C – 6
D909	D – 6
D910	D – 6
D911	D – 6
D920	D – 6
D921	D – 6
D922	E – 7
D2A0	C – 4
D2A1	B – 6
D2A2	C – 5
D2A3	A – 4
D2A4	A – 3
D2G0	B – 6
D2G1	A – 4
D2G2	B – 5
D2G3	A – 4
D2G4	A – 5
D2G8	B – 4
D4A0	E – 5
D4A1	D – 5
D4A2	E – 4
D5A1	E – 3
D5A4	B – 2
D5A5	D – 5
D5A7	C – 5
D5A8	C – 5
D5A9	A – 3
D5B1	D – 4
D5B2	E – 2
D5B3	C – 4
D5B4	B – 5
D5G2	D – 5
F901	A – 7
F902	B – 7
F903	B – 7
FC11	A – 7
FC12	A – 7
FC21	B – 7
FC22	B – 7
FC31	B – 7
FC32	B – 7
IC101	A – 1
IC102	B – 1
IC103	B – 1
IC501	A – 3
IC551	B – 3
IC1S1	A – 2
IC2A0	A – 5
IC2A1	A – 5
IC4A0	E – 5
IC4A1	E – 5
IC5A0	D – 2
IC5A1	E – 1
IC5A2	E – 1

SYMBOL NO.	ADDRESS
IC5A4	C – 2
IC5A5	E – 1
J997	C – 5
J998	C – 4
J999	B – 3
J2A0	A – 3
J2A1	A – 3
J5A0	A – 3
J5A1	A – 2
L101	A – 1
L101	A – 2
L102	A – 1
L103	A – 1
L104	A – 1
L105	A – 1
L106	A – 2
L107	B – 2
L108	B – 2
L109	A – 2
L112	B – 1
L113	A – 1
L501	A – 4
L502	B – 3
L503	B – 3
L504	B – 3
L551	B – 2
L901	A – 6
L1S1	A – 2
L2A0	B – 5
L2A1	B – 5
L2A2	B – 6
L2A3	B – 5
L2A4	B – 4
L2A6	A – 3
L2G0	B – 5
L2G1	A – 4
L2G4	A – 5
L2G5	B – 4
L2G6	B – 4
L2T0	A – 5
L2T1	A – 6
L2T2	A – 6
L4A7	E – 6
L4A8	E – 6
P5A0	C – 1
Q01	C – 1
Q101	A – 1
Q102	B – 2
Q103	B – 2
Q106	B – 1
Q107	B – 2
Q108	A – 2
Q109	A – 2
Q110	A – 2
Q111	B – 1
Q501	B – 3

SYMBOL NO.	ADDRESS
Q502	B – 3
Q503	B – 3
Q504	B – 3
Q505	B – 3
Q506	C – 4
Q507	B – 5
Q901	D – 6
Q902	D – 7
Q903	D – 7
Q904	D – 7
Q907	D – 6
Q908	D – 6
Q910	E – 7
Q911	E – 7
Q912	E – 7
Q913	E – 7
Q2A0	B – 5
Q2A1	B – 5
Q2A2	C – 4
Q2A3	B – 5
Q2A4	A – 4
Q2A5	B – 4
Q2A7	A – 3
Q2A8	A – 3
Q2A9	A – 2
Q2G0	A – 5
Q2G1	A – 4
Q2G2	B – 4
Q2G4	B – 5
Q2G5	A – 4
Q2G6	A – 4
Q2G7	B – 5
Q2G8	A – 4
Q2G9	B – 5
Q2H0	B – 4
Q2H1	B – 4
Q2R0	A – 3
Q2R1	A – 4
Q4A1	D – 4
Q4A2	D – 5
Q4A3	D – 5
Q4A4	D – 5
Q4A5	E – 4
Q4A6	E – 6
Q4C8	E – 6
Q5A1	E – 3
Q5A2	E – 3
Q5A3	E – 3
Q5A6	D – 2
Q5A7	E – 7
Q5A8	D – 1
Q5A9	E – 7
Q5B0	E – 1
Q5B1	E – 2
Q5B2	C – 2
Q5B3	D – 2
Q5B4	B – 5
Q5B6	C – 4
Q5B7	C – 2
Q5B8	D – 3

SYMBOL NO.	ADDRESS
Q5C4	D – 2
Q5C5	D – 2
Q5D6	C – 4
Q5E1	D – 1
Q5E2	D – 6
Q5E3	E – 5
Q5E4	E – 3
Q5F0	C – 4
Q5F1	C – 4
R01	B – 1
R03	B – 1
R04	A – 1
R05	C – 1
R06	B – 1
R08	B – 1
R09	B – 1
R10	C – 2
R11	B – 1
R12	B – 1
R13	B – 1
R14	B – 1
R15	B – 1
R16	B – 1
R17	B – 1
R18	A – 2
R20	C – 1
R101	A – 1
R102	A – 1
R103	A – 1
R104	A – 1
R105	A – 1
R108	B – 1
R109	B – 1
R110	B – 2
R111	A – 1
R112	A – 1
R113	A – 2
R114	B – 2
R115	B – 2
R116	B – 2
R117	A – 2
R118	A – 2
R119	A – 2
R120	B – 2
R127	A – 2
R128	B – 2
R129	B – 1
R130	B – 1
R131	B – 1
R132	B – 1
R133	B – 1
R134	B – 1
R135	B – 1
R136	B – 1
R142	A – 2
R143	A – 2
R144	A – 2
R145	A – 2
R146	A – 2

SYMBOL NO.	ADDRESS
R147	A – 2
R150	B – 1
R151	B – 1
R152	B – 1
R153	B – 1
R154	B – 1
R160	A – 2
R161	A – 2
R199	B – 1
R501	A – 3
R502	B – 3
R503	B – 3
R504	B – 3
R505	B – 3
R506	B – 3
R507	B – 3
R508	B – 3
R509	B – 3
R510	B – 3
R511	A – 3
R512	B – 3
R513	B – 3
R514	B – 3
R515	B – 3
R516	C – 4
R517	B – 5
R518	C – 5
R519	C – 5
R520	C – 5
R521	B – 5
R522	C – 5
R523	B – 5
R551	A – 3
R552	A – 3
R553	A – 3
R554	B – 3
R555	B – 3
R556	A – 3
R557	B – 3
R901	A – 6
R903	D – 6
R904	D – 6
R911	C – 6
R913	D – 6
R914	D – 6
R915	D – 6
R916	D – 7
R917	D – 7
R920	E – 7
R921	E – 6
R922	E – 6
R923	E – 7
R924	E – 7
R1S1	A – 2
R1S2	A – 2
R2A0	B – 5
R2A1	B – 5
R2A2	B – 6
R2A3	B – 5
R2A4	B – 5

SYMBOL NO.	ADDRESS
R2A5	B – 5
R2A6	B – 5
R2A8	B – 5
R2A9	B – 5
R2B3	B – 6
R2B4	B – 6
R2B5	A – 4
R2B6	A – 4
R2B7	A – 4
R2B8	A – 4
R2B9	B – 4
R2C0	B – 4
R2C1	B – 4
R2C2	B – 4
R2C3	B – 5
R2C4	B – 5
R2C5	A – 3
R2C6	B – 3
R2C7	B – 5
R2C8	B – 5
R2C9	A – 3
R2D1	C – 4
R2D2	B – 4
R2G1	B – 5
R2G2	B – 5
R2G3	B – 5
R2G4	B – 6
R2G5	B – 5
R2G6	B – 6
R2G7	B – 5
R2G8	A – 4
R2G9	A – 5
R2H0	A – 4
R2H1	A – 5
R2H3	A – 4
R2H4	B – 5
R2H5	B – 4
R2H6	B – 4
R2H7	B – 4
R2H9	A – 4
R2J0	B – 4
R2J1	B – 5
R2J2	B – 4
R2J3	B – 4
R2J4	B – 4
R2J5	C – 6
R2J6	C – 6
R2K0	A – 4
R2K2	A – 4
R2K3	A – 4
R2K7	A – 2
R2K8	A – 2
R2K9	A – 2
R2L0	A – 5
R2L1	A – 5
R2L2	A – 6
R2M2	A – 4
R2P1	B – 6
R2R0	A – 3
R2R1	A – 3

SYMBOL NO.	ADDRESS
R2R2	A – 3
R2R3	A – 4
R2T0	B – 5
R2X0	A – 3
R2X1	A – 3
R2X2	A – 4
R2X3	A – 3
R2Y0	A – 5
R2Y1	A – 4
R2Y2	A – 3
R4A0	D – 4
R4A1	D – 4
R4A2	D – 5
R4A3	E – 5
R4A4	E – 5
R4A5	D – 5
R4A6	D – 4
R4A7	D – 4
R4A8	D – 5
R4A9	E – 5
R4B0	E – 5
R4B1	E – 5
R4B2	E – 5
R4B3	D – 4
R4B4	D – 4
R4B5	E – 4
R4B6	E – 4
R4B7	D – 5
R4B8	D – 5
R4B9	D – 5
R4C0	D – 5
R4C1	D – 6
R4C2	D – 5
R4C3	D – 5
R4C4	D – 5
R4C5	D – 5
R4C6	D – 5
R4C7	D – 5
R4C8	D – 5
R4C9	D – 5
R4D0	E – 6
R4D1	D – 5
R4D2	D – 5
R4D3	D – 5
R4D4	D – 5
R4D5	D – 5
R4D6	E – 5
R4D7	D – 5
R4D8	E – 5
R4D9	D – 6
R4E0	D – 6
R4E1	E – 6
R4E5	E – 4
R4S1	D – 6
R4S5	E – 6
R4S6	E – 6
R4S7	E – 6
R4S9	E – 6
R5A0	E – 1
R5A1	E – 1

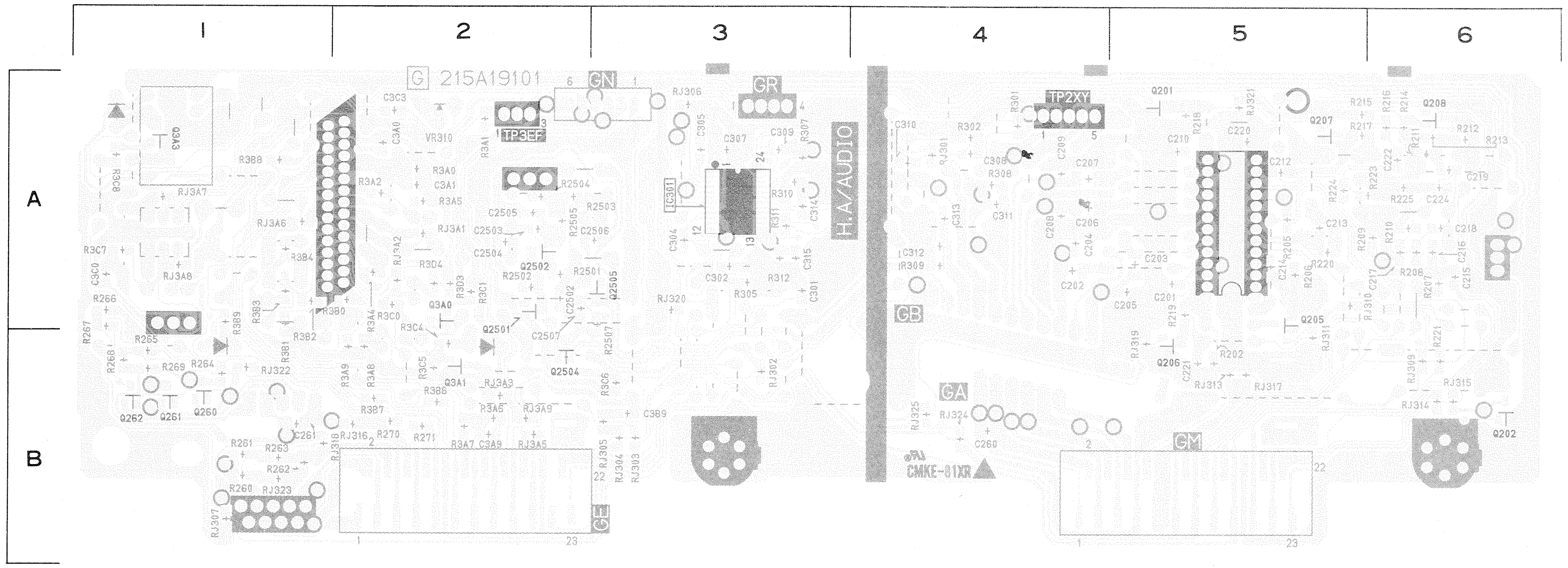
SYMBOL NO.	ADDRESS
R5A2	E – 1
R5A3	E – 1
R5A4	D – 4
R5A5	D – 3
R5A6	D – 1
R5A7	D – 6
R5A8	D – 1
R5A9	E – 4
R5B0	D – 1
R5B1	E – 3
R5B2	D – 6
R5B3	E – 3
R5B4	E – 3
R5B5	E – 1
R5B6	E – 1
R5B7	E – 4
R5B8	E – 4
R5B9	E – 4
R5C0	E – 3
R5C1	E – 3
R5C2	E – 3
R5C3	E – 3
R5C4	E – 3
R5C5	E – 3
R5C6	D – 3
R5C7	C – 1
R5C8	D – 2
R5C9	D – 3
R5D6	E – 7
R5D7	E – 7
R5E0	D – 1
R5E1	D – 2
R5E2	D – 2
R5E3	D – 2
R5E4	D – 2
R5E5	D – 2
R5E6	D – 2
R5E7	D – 2
R5E8	E – 3
R5E9	E – 3
R5F0	E – 2
R5F1	E – 2
R5F2	B – 5
R5F3	D – 1
R5F4	B – 5
R5F5	C – 4
R5F6	C – 3
R5F7	E – 1
R5F8	D – 3
R5G0	D – 1
R5G2	E – 1
R5G3	E – 1
R5G4	D – 1
R5G5	C – 5
R5G6	D – 6
R5G7	C – 2
R5G8	C – 2
R5G9	C – 2
R5H0	C – 2
R5H1	C – 2

SYMBOL NO.	ADDRESS
R5H2	C – 2
R5H3	C – 2
R5H4	C – 2
R5H5	D – 5
R5H6	D – 5
R5H7	D – 4
R5H9	C – 2
R5J0	A – 3
R5J1	A – 3
R5J2	E – 2
R5J3	D – 3
R5J4	D – 2
R5J6	C – 3
R5J7	B – 4
R5K0	A – 3
R5K1	B – 2
R5K4	C – 2
R5K5	E – 1
R5K7	D – 3
R5L1	D – 1
R5L2	D – 1
R5L5	C – 1
R5M0	D – 3
R5M1	D – 3
RJ101	A – 2
RJ102	A – 2
RJ103	B – 2
RJ104	A – 1
RJ105	B – 1
RJ106	C – 1
RJ107	B – 1
RJ202	A – 4
RJ203	A – 4
RJ204	A – 3
RJ205	A – 3
RJ206	A – 3
RJ207	B – 3
RJ208	A – 3
RJ209	B – 5
RJ210	A – 4
RJ211	B – 5
RJ212	B – 5
RJ213	C – 5
RJ214	D – 3
RJ215	C – 3
RJ401	D – 5
RJ402	D – 6
RJ403	D – 5
RJ404	E – 5
RJ405	E – 5
RJ406	D – 5
RJ407	D – 4
RJ408	E – 5
RJ501	B – 4
RJ502	C – 4
RJ503	C – 4
RJ504	C – 3
RJ505	D – 1

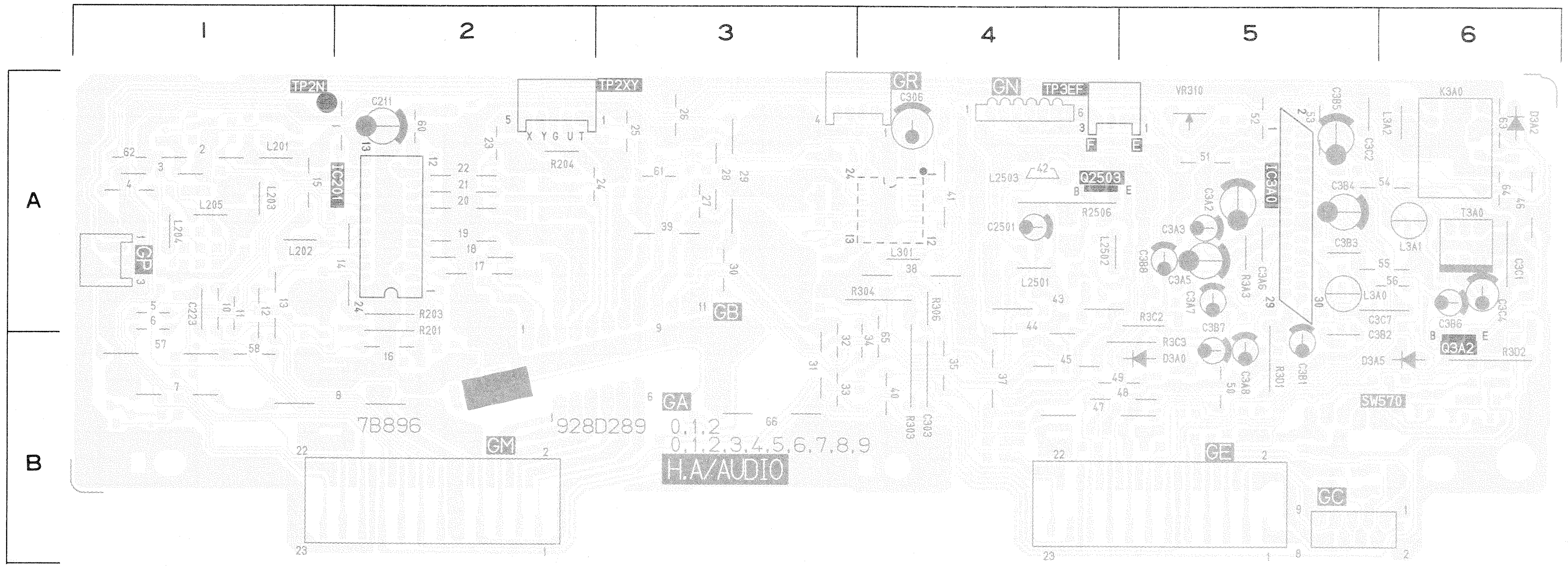
SYMBOL NO.	ADDRESS
S101	A – 2
S5A0	E – 6
S5A1	A – 1
SF101	A – 1
SF102	A – 1
T901	B – 6
TP01	B – 1
TP02	B – 1
TP04	B – 2
TP11	A – 1
TP12	B – 2
TP13	B – 2
TP14	B – 2
TP15	A – 1
TP16	B – 2
TP21	A – 2
TP53	B – 4
TP108	E – 4
TP109	E – 4
TP110	E – 4
TP1A	A – 1
TP1C	A – 1
TP1E	A – 1
TP1S	A – 2
TP1V	A – 2
TP2A	B – 4
TP2B	A – 5
TP2H	B – 4
TP2J	A – 2
TP2M	B – 4
TP2N	B – 4
TP2S	B – 5
TP5A	C – 1
TP5B	D – 1
TP5C	D – 1
TP5D	C – 3
TP5F	C – 2
TP5X	D – 4
TP5Y	D – 3
TP9A	A – 3
TP9C	C – 2
TP1G1	A – 1
TP1G2	A – 1
TP1G3	A – 1
TP1G4	B – 1
TP2AH	B – 4
TP2C4	B – 4
TP2C7	B – 5
TP2G2	A – 3
TP2G3	A – 3
TP2G4	A – 4
TP4C0	D – 4
TP4C1	D – 5
TP4C2	E – 5
TP4D1	D – 5
TP4D2	D – 5
TP4F1	D – 5

SYMBOL NO.	ADDRESS
TP4G1	D – 4
TP4M1	D – 5
TP5J0	D – 3
TP5J1	E – 3
TP5J2	E – 1
TP5J3	E – 1
TP5J4	E – 1
TP5J5	E – 3
TP5J6	B – 5
TP5J8	E – 3
TP5J9	E – 4
TP5K0	C – 3
TP5K1	D – 3
TP5K3	E – 2
TP5K4	E – 6
TP5K5	D – 4
TPGND	B – 4
TPSYNC	C – 4
TPRESET	A – 1
TU01	A – 1
VR101	B – 2
VR5A0	E – 1
X501	A – 3
X2A0	A – 5
X4A0	E – 6
X5A0	C – 2
X5A1	D – 2

PCB-HA/AUDIO 〔SOLDER SIDE〕


1
2
3
4
5
6
A
B
215A19101
GN
GR
TP3EF
TP2XY
H.A/AUDIO
GB
GA
GM
GE
CMKE-81XR
IC301
Q3A3
Q2501
Q2502
Q2504
Q2505
Q201
Q202
Q205
Q206
Q207
Q208
Q260
Q261
Q262

PCB-HA/AUDIO 〔COMPONENT SIDE〕


1
2
3
4
5
6
A
B
TP2N
TP2XY
GR
GN
TP3EF
VR310
K3A0
D3A2
IC201
Q2503
IC3A0
T3A0
L3A0
L3A1
Q3A2
SW570
GP
GB
GA
GM
GE
GC
7B896
928D289
0.1.2
0.1.2.3.4.5.6.7.8.9
H.A/AUDIO

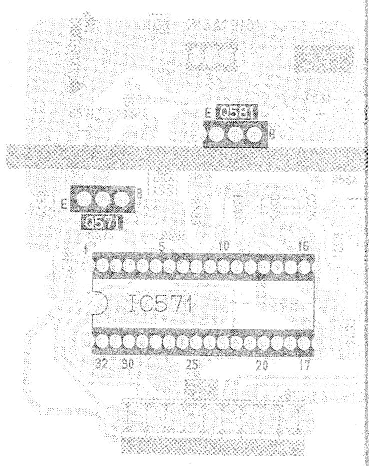
PCB-HA/AUDIO 〔SOLDER SIDE〕

SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
C201	A – 5	C301	A – 3	IC301	A – 3	R210	A – 6
C202	A – 4	C302	A – 3			R211	A – 6
C203	A – 5	C304	A – 3	Q201	A – 5	R212	A – 6
C204	A – 4	C305	A – 3	Q202	B – 6	R213	A – 6
C205	A – 5	C307	A – 3	Q205	A – 5	R214	A – 6
C206	A – 4	C308	A – 4	Q206	B – 5	R215	A – 5
C207	A – 4	C309	A – 3	Q207	A – 5	R216	A – 6
C208	A – 4	C310	A – 4	Q208	A – 6	R217	A – 5
C209	A – 4	C311	A – 4	Q260	B – 1	R218	A – 5
C210	A – 5	C312	A – 4	Q261	B – 1	R219	A – 5
C212	A – 5	C313	A – 4	Q262	B – 1	R220	A – 5
C213	A – 5	C314	A – 3	Q2501	A – 2	R221	B – 6
C214	A – 5	C315	A – 3	Q2502	A – 2	R223	A – 6
C215	A – 6	C2502	A – 2	Q2504	B – 2	R224	A – 5
C216	A – 6	C2503	A – 2	Q2505	A – 3	R225	A – 6
C217	A – 6	C2504	A – 2	Q3A0	A – 2	R260	B – 1
C218	A – 6	C2505	A – 2	Q3A1	B – 2	R261	B – 1
C219	A – 6	C2506	A – 3	Q3A3	A – 1	R262	B – 1
C220	A – 5	C2507	A – 2			R263	B – 1
C221	B – 5	C3A0	A – 2	R202	B – 5	R264	B – 1
C222	A – 6	C3A1	A – 2	R205	A – 5	R265	B – 1
C224	A – 6	C3A9	B – 2	R206	A – 5	R266	A – 1
C260	B – 4	C3B9	B – 3	R207	A – 6	R267	B – 1
C261	B – 1	C3C0	A – 1	R208	A – 6	R268	B – 1
C262	A – 5	C3C3	A – 2	R209	A – 6	R269	B – 1

PCB-HA/AUDIO 〔COMPONENT SIDE〕

SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
D3A0	B – 5	SW570	B – 6
D3A2	A – 6		
D3A5	B – 6	T3A0	A – 6
IC201	A – 2	TP2N	A – 1
IC3A0	A – 5	TP2XY	A – 2
		TP3EF	A – 4
K3A0	A – 6		
		VR310	A – 5
L201	A – 1		
L202	A – 1		
L203	A – 1		
L204	A – 1		
L205	A – 1		
L301	A – 4		
L2501	A – 4		
L2502	A – 5		
L2503	A – 4		
L3A0	A – 6		
L3A1	A – 6		
L3A2	A – 6		
Q2503	A – 4		
Q3A2	B – 6		

PCB-SAT 〔SOLDER SID


215A19101
SAT
Q581
Q571
IC571
1
5
10
16
32
30
25
20
17
SS

MBOL NO.	ADDRESS
301	A – 3
01	A – 5
02	B – 6
05	A – 5
06	B – 5
07	A – 5
08	A – 6
60	B – 1
61	B – 1
62	B – 1
501	A – 2
502	A – 2
504	B – 2
505	A – 3
A0	A – 2
A1	B – 2
A3	A – 1
02	B – 5
05	A – 5
06	A – 5
07	A – 6
08	A – 6
09	A – 6

SYMBOL NO.	ADDRESS
R210	A – 6
R211	A – 6
R212	A – 6
R213	A – 6
R214	A – 6
R215	A – 5
R216	A – 6
R217	A – 5
R218	A – 5
R219	A – 5
R220	A – 5
R221	B – 6
R223	A – 6
R224	A – 5
R225	A – 6
R260	B – 1
R261	B – 1
R262	B – 1
R263	B – 1
R264	B – 1
R265	B – 1
R266	A – 1
R267	B – 1
R268	B – 1
R269	B – 1

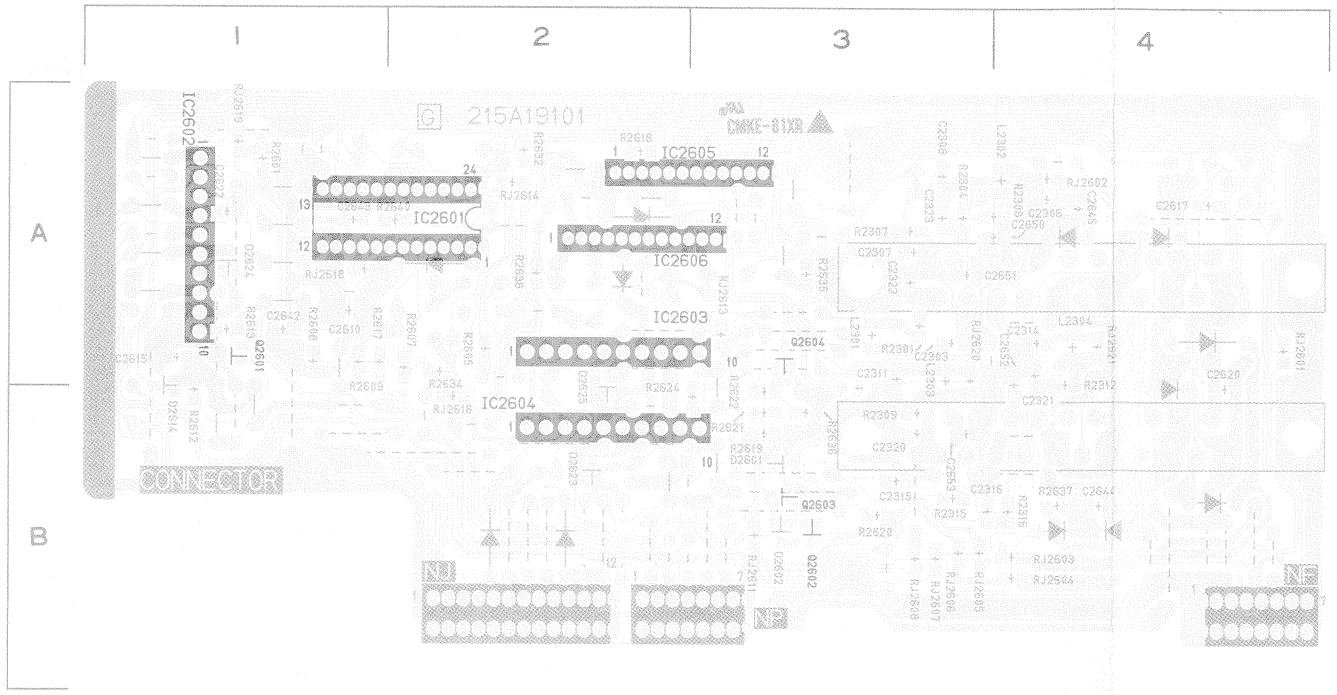
SYMBOL NO.	ADDRESS
R270	B – 2
R271	B – 2
R301	A – 4
R302	A – 4
R305	A – 3
R307	A – 3
R308	A – 4
R309	A – 4
R310	A – 3
R311	A – 3
R312	A – 3
R2501	A – 2
R2502	A – 2
R2503	A – 3
R2504	A – 2
R2505	A – 2
R2507	A – 3
R3A0	A – 2
R3A1	A – 2
R3A2	A – 2
R3A4	A – 2
R3A5	A – 2
R3A6	B – 2
R3A7	B – 2
R3A8	B – 2

SYMBOL NO.	ADDRESS
R3A9	B – 2
R3B0	A – 1
R3B1	B – 1
R3B2	A – 1
R3B3	A – 1
R3B4	A – 1
R3B6	B – 2
R3B7	B – 2
R3B8	A – 1
R3B9	A – 1
R3C0	A – 2
R3C1	A – 2
R3C4	B – 2
R3C5	B – 2
R3C6	B – 3
R3C7	A – 1
R3C8	A – 1
R3D3	A – 2
R3D4	A – 2
RJ301	A – 4
RJ302	B – 3
RJ303	B – 3
RJ304	B – 3
RJ305	B – 3

SYMBOL NO.	ADDRESS
RJ306	A – 3
RJ307	B – 1
RJ309	B – 6
RJ310	A – 5
RJ311	B – 5
RJ313	B – 5
RJ314	B – 6
RJ315	B – 6
RJ316	B – 2
RJ317	B – 5
RJ318	B – 1
RJ319	B – 5
RJ320	A – 3
RJ321	A – 5
RJ322	B – 1
RJ323	B – 1
RJ324	B – 4
RJ325	B – 4
RJ3A1	A – 2
RJ3A2	A – 2
RJ3A3	B – 2
RJ3A5	B – 2
RJ3A6	A – 1
RJ3A7	A – 1
RJ3A8	A – 1

SYMBOL NO.	ADDRESS
RJ3A9	B – 2
TP2XY	A – 4
TP3EF	A – 2
VR310	A – 2

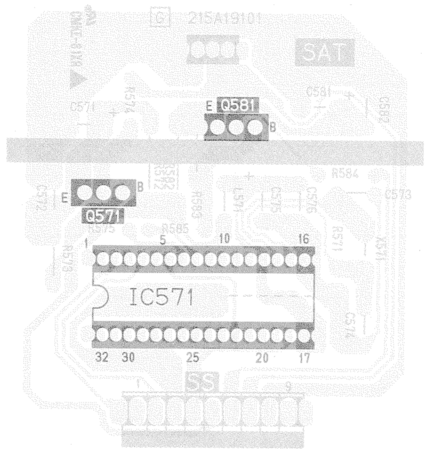
PCB-CONNECTOR〔SOLDER SIDE〕


1
2
3
4
A
B
215A19101
CMKE-81XR
IC2602
IC2601
IC2605
IC2606
IC2603
IC2604
CONNECTOR
NJ
NP
NF

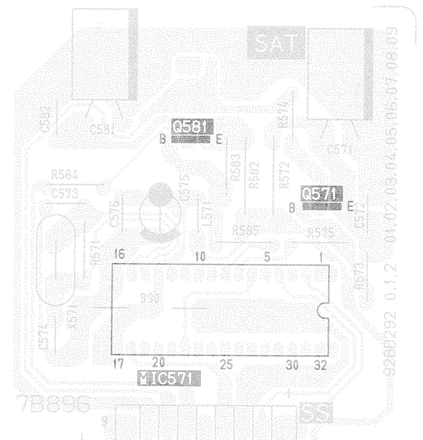
PCB-CONNEC

SYMBOL NO.	ADDR
C2303	A –
C2306	A –
C2307	A –
C2308	A –
C2311	A –
C2314	A –
C2315	B –
C2316	B –
C2320	B –
C2321	B –
C2322	A –
C2323	A –
C2610	A –
C2615	A –
C2617	A –
C2620	A –
C2622	A –
C2642	A –
C2643	A –
C2644	B –
C2645	A –
C2650	A –
C2651	A –
C2652	A –
C2653	B –

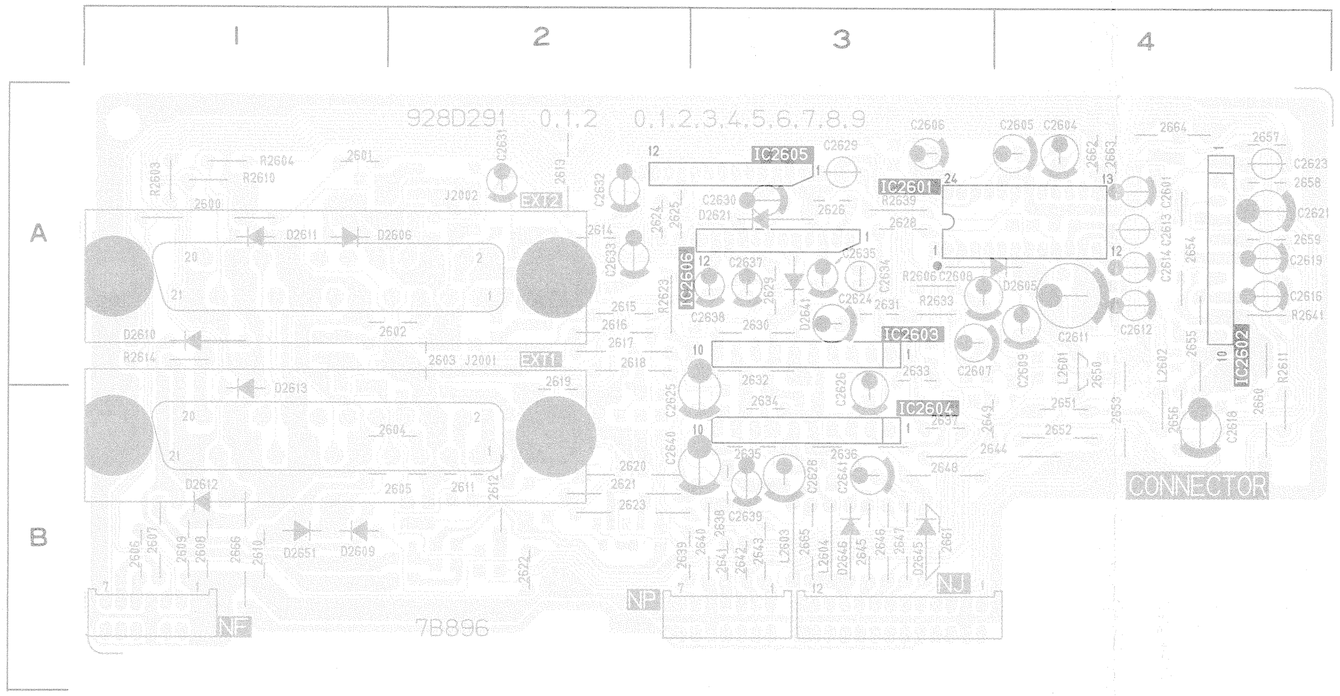
PCB-SAT〔SOLDER SIDE〕 (V(B)only)


215A19101
SAT
Q581
Q571
IC571
SS

PCB-SAT〔COMPONENT SIDE〕 (V(B)only)


SAT
Q581
Q571
IC571
7B896
SS

PCB-CONNECTOR〔COMPONENT SIDE〕


1
2
3
4
A
B
926D291
IC2605
IC2601
IC2606
IC2603
IC2604
IC2602
EXT2
EXT1
J2001
J2002
CONNECTOR
NF
NP
NJ
7B896

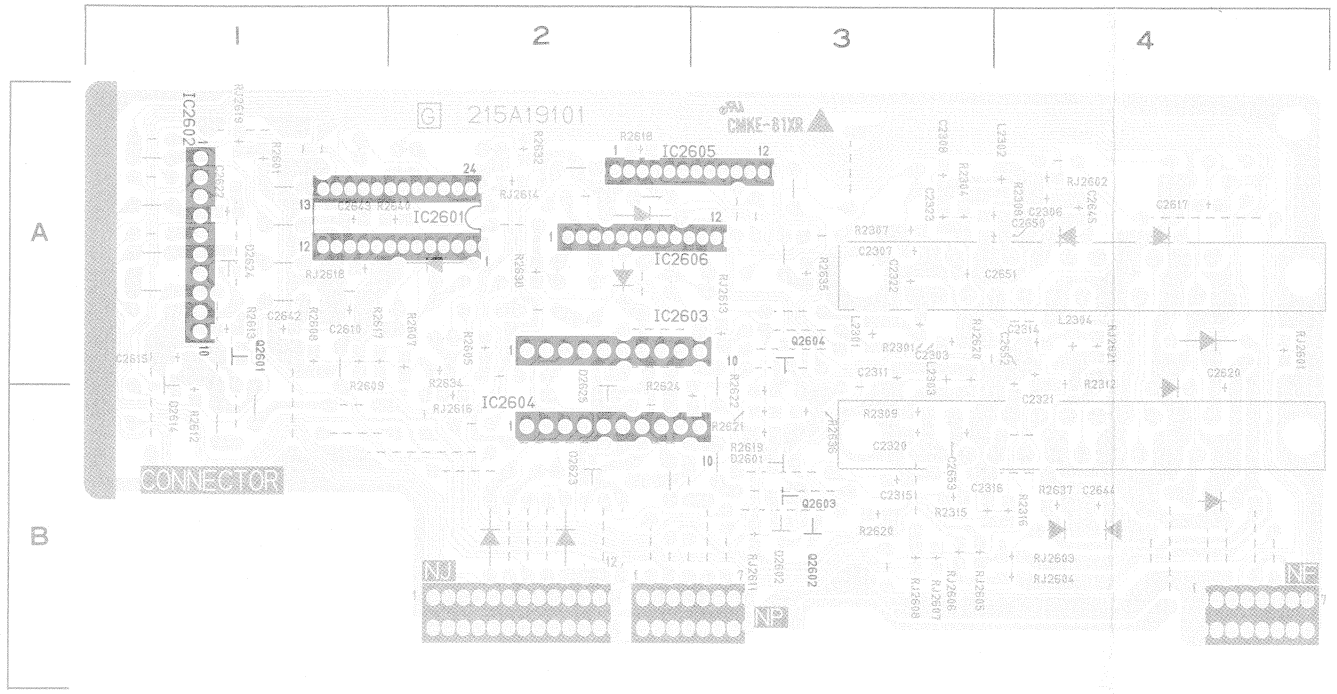
PCB-CONNEC

SYMBOL NO.	ADDRE
D2605	A –
D2606	A –
D2609	B –
D2610	A –
D2611	A –
D2612	B –
D2613	A –
D2621	A –
D2641	A –
D2645	B –
D2646	B –
D2651	B –
IC2601	A –
IC2602	A –
IC2603	A –
IC2604	B –
IC2605	A –
IC2606	A –
J2001	B –
J2002	A –
L2601	A –
L2602	B –

OL	ADDRESS
6	A – 3
7	B – 1
9	B – 6
0	A – 5
1	B – 5
3	B – 5
4	B – 6
5	B – 6
6	B – 2
7	B – 5
8	B – 1
9	B – 5
0	A – 3
1	A – 5
2	B – 1
3	B – 1
4	B – 4
5	B – 4
1	A – 2
2	A – 2
3	B – 2
5	B – 2
6	A – 1
7	A – 1
8	A – 1

SYMBOL NO.	ADDRESS
RJ3A9	B – 2
TP2XY	A – 4
TP3EF	A – 2
VR310	A – 2

PCB-CONNECTOR〔SOLDER SIDE〕


1
2
3
4
A
B
215A19101
CMKE-81XR
IC2602
IC2601
IC2605
IC2606
IC2603
IC2604
CONNECTOR
NJ
NP
NF

PCB-CONNECTOR〔SOLDER SIDE〕

SYMBOL NO.	ADDRESS
C2303	A – 3
C2306	A – 4
C2307	A – 3
C2308	A – 3
C2311	A – 3
C2314	A – 4
C2315	B – 3
C2316	B – 3
C2320	B – 3
C2321	B – 4
C2322	A – 3
C2323	A – 3
C2610	A – 1
C2615	A – 1
C2617	A – 4
C2620	A – 4
C2622	A – 1
C2642	A – 1
C2643	A – 1
C2644	B – 4
C2645	A – 4
C2650	A – 4
C2651	A – 3
C2652	A – 4
C2653	B – 3

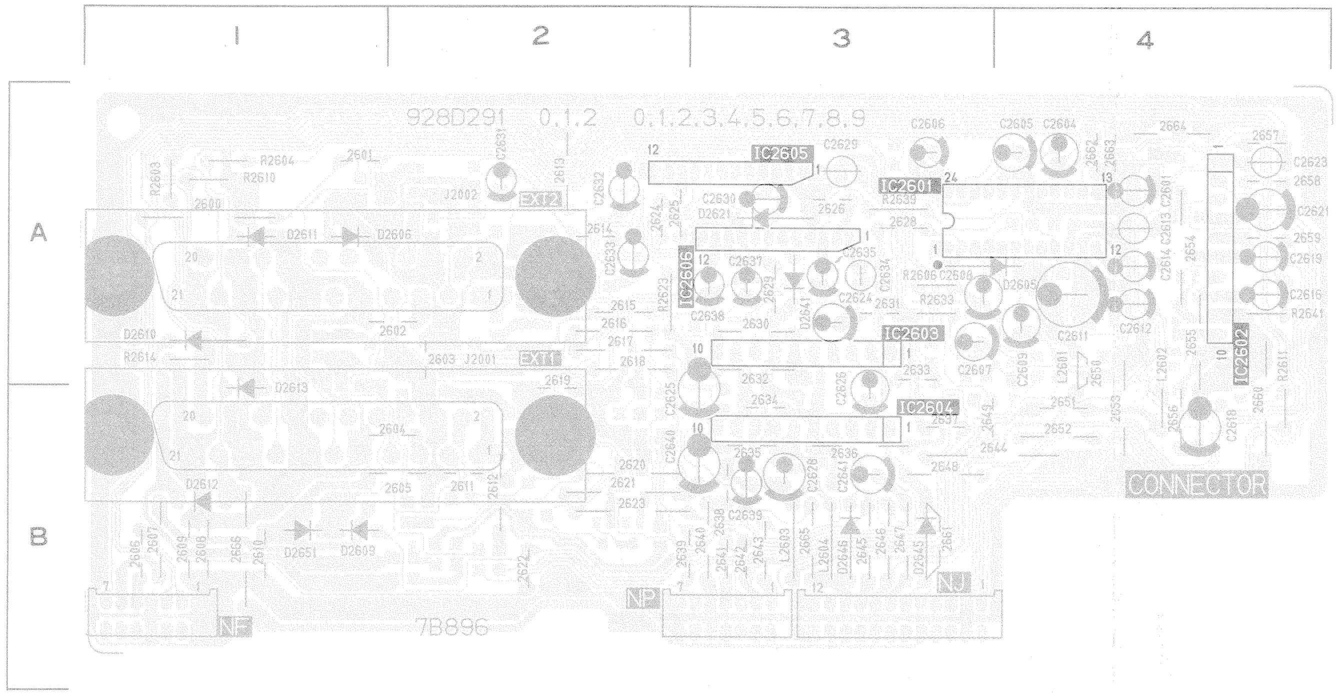
SYMBOL NO.	ADDRESS
D2601	B – 3
D2602	B – 3
D2614	B – 1
D2623	B – 2
D2624	A – 1
D2625	A – 2
IC2601	A – 1
IC2602	A – 1
IC2603	A – 2
IC2604	B – 2
IC2605	A – 2
IC2606	A – 2
L2301	A – 3
L2302	A – 3
L2303	A – 3
L2304	A – 4
Q2601	A – 1
Q2602	B – 3
Q2603	B – 3
Q2604	A – 3
R2301	A – 3

SYMBOL NO.	ADDRESS
R2304	A – 3
R2307	A – 3
R2308	A – 3
R2309	B – 3
R2312	A – 4
R2315	B – 3
R2316	B – 3
R2601	A – 1
R2605	A – 2
R2607	A – 2
R2608	A – 1
R2609	A – 1
R2612	B – 1
R2613	A – 1
R2617	A – 1
R2618	A – 2
R2619	B – 3
R2620	B – 3
R2621	B – 3
R2622	B – 3
R2624	B – 2
R2632	A – 2
R2634	A – 2
R2635	A – 3
R2636	B – 3

SYMBOL NO.	ADDRESS
R2637	B – 4
R2638	A – 2
R2640	A – 1
RJ2601	A – 4
RJ2602	A – 4
RJ2603	B – 4
RJ2604	B – 4
RJ2605	B – 3
RJ2606	B – 3
RJ2607	B – 3
RJ2608	B – 3
RJ2611	B – 3
RJ2613	A – 3
RJ2614	A – 2
RJ2616	B – 2
RJ2618	A – 1
RJ2619	A – 1
RJ2620	A – 3
RJ2621	A – 4

ENT SIDE〕 (V(B)only)

PCB-CONNECTOR〔COMPONENT SIDE〕

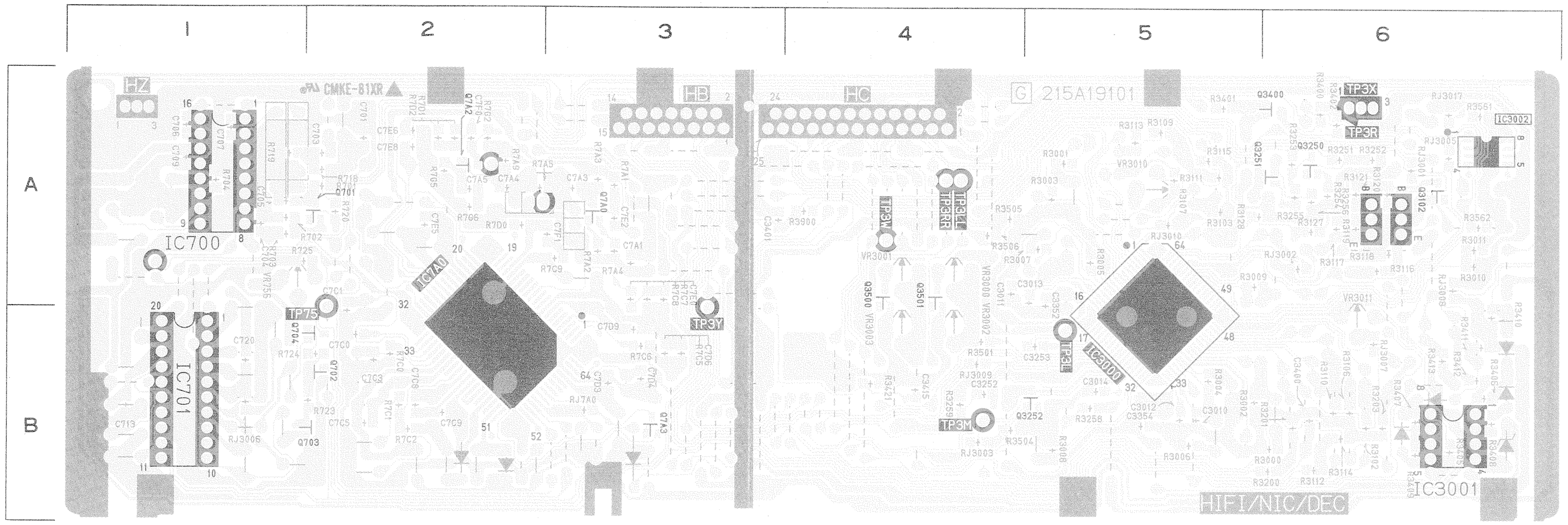

1
2
3
4
A
B
928D291 0.1.2 0.1.2.3.4.5.6.7.8.9
EXT2
EXT1
IC2605
IC2601
IC2606
IC2603
IC2604
IC2602
CONNECTOR
NP
NJ
NF
7B896

PCB-CONNECTOR〔COMPONENT SIDE〕

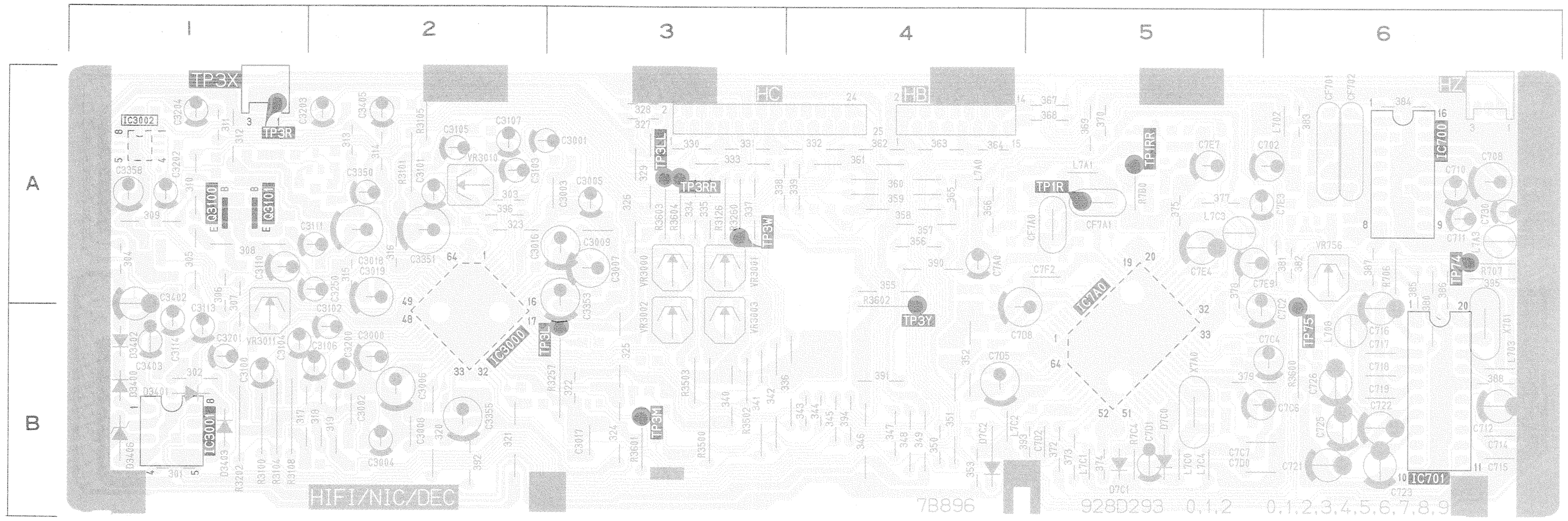
SYMBOL NO.	ADDRESS
D2605	A – 3
D2606	A – 1
D2609	B – 1
D2610	A – 1
D2611	A – 1
D2612	B – 1
D2613	A – 1
D2621	A – 3
D2641	A – 3
D2645	B – 3
D2646	B – 3
D2651	B – 1
IC2601	A – 4
IC2602	A – 4
IC2603	A – 3
IC2604	B – 3
IC2605	A – 3
IC2606	A – 3
J2001	B – 1
J2002	A – 1
L2601	A – 4
L2602	B – 4

SYMBOL NO.	ADDRESS
L2603	B – 3
L2604	B – 3

PCB-HIFI/NIC/DEC 〔SOLDER SIDE〕


1
2
3
4
5
6
A
B
HZ
CMKE-81XR
HB
HC
215A19101
IC700
IC701
IC7A0
TP75
TP3Y
TP3W
TP3LL
TP3RR
TP3M
TP3L
IC3000
TP3X
TP3R
IC3002
IC3001
HIFI/NIC/DEC

PCB-HIFI/NIC/DEC 〔COMPONENT SIDE〕


1
2
3
4
5
6
A
B
TP3X
TP3R
IC3002
Q3100
Q3101
IC3000
IC3001
HC
HB
TP3LL
TP3RR
TP3W
TP3L
TP3M
TP3Y
TP1R
TP1RR
IC7A0
TP75
TP74
IC700
IC701
HZ
HIFI/NIC/DEC
7B896
928D293 0.1.2 0.1.2.3.4.5.6.7.8.9

PCB-HIFI/NIC/DEC 〔SOLDER SIDE〕

SYMBOL NO.	ADDRESS
C701	A – 2
C703	A – 2
C704	A – 1
C705	A – 1
C706	A – 1
C707	A – 1
C709	A – 1
C713	B – 1
C720	B – 1
C3010	B – 5
C3011	A – 4
C3012	B – 5
C3013	A – 5
C3014	B – 5
C3252	B – 4
C3253	B – 5
C3352	A – 5
C3354	B – 5
C3400	B – 6
C3401	A – 3
C3415	B – 4
C7A1	A – 3
C7A3	A – 3
C7A4	A – 2
C7A5	A – 2

SYMBOL NO.	ADDRESS
C7C0	B – 2
C7C1	A – 2
C7C3	B – 2
C7C5	B – 2
C7C8	B – 2
C7C9	B – 2
C7D3	B – 3
C7D4	B – 3
C7D6	B – 3
C7D9	B – 3
C7E0	A – 3
C7E2	A – 3
C7E5	A – 2
C7E6	A – 2
C7E8	A – 2
C7F0	A – 2
C7F1	A – 3
IC700	A – 1
IC701	B – 1
IC3000	B – 5
IC3001	B – 6
IC3002	A – 6
IC7A0	B – 2

PCB-HIFI/NIC/DEC 〔COMPONENT SIDE〕

SYMBOL NO.	ADDRESS
CF701	A – 6
CF702	A – 6
CF7A0	A – 5
CF7A1	A – 5
D3400	B – 1
D3401	B – 1
D3402	B – 1
D3403	B – 1
D3406	B – 1
D7C0	B – 5
D7C1	B – 5
D7C2	B – 4
IC700	A – 6
IC701	B – 6
IC3000	B – 2
IC3001	B – 1
IC3002	A – 1
IC7A0	B – 5
L702	A – 6
L703	B – 6
L708	B – 6
L7A0	A – 4

SYMBOL NO.	ADDRESS
L7A1	A – 5
L7A3	A – 6
L7C0	B – 5
L7C1	B – 5
L7C2	B – 4
L7C3	A – 5
L7C4	B – 5
Q3100	A – 1
Q3101	A – 1
TP74	A – 6
TP75	B – 6
TP1R	A – 5
TP3L	B – 3
TP3M	B – 3
TP3R	A – 1
TP3W	A – 3
TP3X	A – 1
TP3Y	A – 4
TP1RR	A – 5
TP3LL	A – 3
TP3RR	A – 3
VR756	A – 6

〔SOLDER SIDE〕

SYMBOL NO.	ADDRESS
C7C0	B – 2
C7C1	A – 2
C7C3	B – 2
C7C5	B – 2
C7C8	B – 2
C7C9	B – 2
C7D3	B – 3
C7D4	B – 3
C7D6	B – 3
C7D9	B – 3
C7E0	A – 3
C7E2	A – 3
C7E5	A – 2
C7E6	A – 2
C7E8	A – 2
C7F0	A – 2
C7F1	A – 3
C700	A – 1
C701	B – 1
C3000	B – 5
C3001	B – 6
C3002	A – 6
C7A0	B – 2

SYMBOL NO.	ADDRESS
Q701	A – 2
Q702	B – 2
Q703	B – 2
Q704	B – 2
Q3102	A – 6
Q3250	A – 6
Q3251	A – 6
Q3252	B – 5
Q3400	A – 6
Q3500	A – 4
Q3501	A – 4
Q7A0	A – 3
Q7A2	A – 2
Q7A3	B – 3
R701	A – 2
R702	A – 1
R703	A – 1
R704	A – 1
R718	A – 2
R719	A – 1
R720	A – 2
R723	B – 2
R724	B – 2
R725	A – 1

SYMBOL NO.	ADDRESS
R3000	B – 6
R3001	A – 5
R3002	B – 5
R3003	A – 5
R3004	B – 5
R3005	A – 5
R3006	B – 5
R3007	A – 5
R3008	B – 5
R3009	A – 5
R3010	A – 6
R3011	A – 6
R3102	B – 6
R3103	A – 5
R3106	B – 6
R3107	A – 5
R3109	A – 5
R3110	B – 6
R3111	A – 5
R3112	B – 6
R3113	A – 5
R3114	B – 6
R3115	A – 5
R3116	A – 6
R3117	A – 6

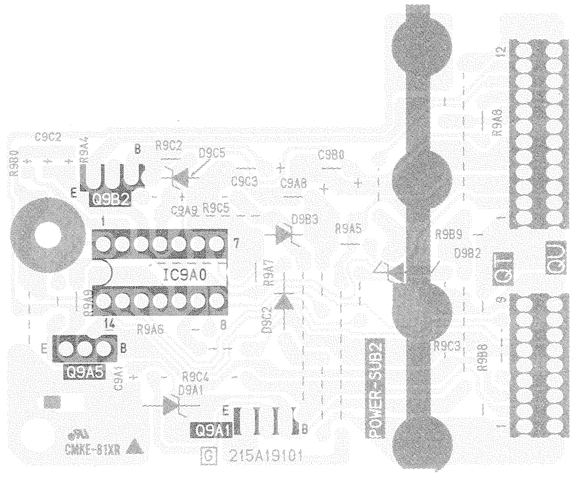
SYMBOL NO.	ADDRESS
R3118	A – 6
R3119	A – 6
R3120	A – 6
R3121	A – 6
R3127	A – 6
R3128	A – 5
R3200	B – 6
R3201	B – 6
R3203	B – 6
R3251	A – 6
R3252	A – 6
R3253	A – 6
R3254	A – 6
R3255	A – 6
R3256	A – 6
R3258	B – 5
R3259	B – 4
R3400	A – 6
R3401	A – 5
R3402	A – 6
R3405	B – 6
R3406	B – 6
R3407	B – 6
R3408	B – 6
R3409	B – 6

SYMBOL NO.	ADDRESS
R3410	B – 6
R3411	B – 6
R3412	B – 6
R3413	B – 6
R3421	B – 4
R3501	B – 4
R3504	B – 4
R3505	A – 4
R3506	A – 4
R3561	A – 6
R3562	A – 6
R3900	A – 4
R7A1	A – 3
R7A2	A – 3
R7A3	A – 3
R7A4	A – 3
R7A5	A – 2
R7A9	A – 2
R7C0	B – 2
R7C1	B – 2
R7C2	B – 2
R7C5	B – 3
R7C6	B – 3
R7C7	A – 3
R7C8	A – 3

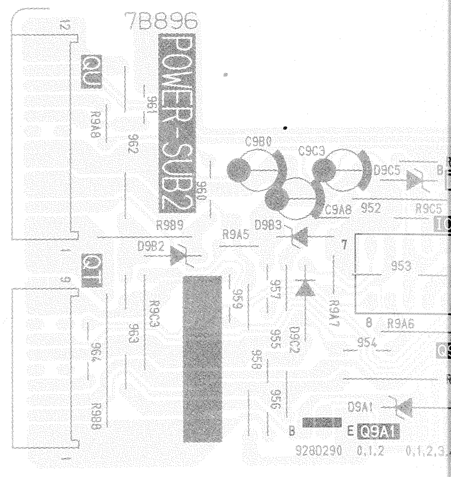
SYMBOL NO.	ADDRESS
R7C9	A – 3
R7D0	A – 2
R7D1	A – 2
R7D2	A – 2
R7G2	A – 2
R7G5	A – 2
R7G6	A – 2
RJ3001	A – 6
RJ3002	A – 6
RJ3003	B – 4
RJ3005	A – 6
RJ3006	B – 1
RJ3007	B – 6
RJ3008	A – 6
RJ3009	B – 4
RJ3010	A – 5
RJ3017	A – 6
RJ7A0	B – 3
TP75	B – 2
TP3L	B – 5
TP3M	B – 4
TP3R	A – 6
TP3W	A – 4

SYMBOL NO.	ADDRESS
TP3X	A – 6
TP3Y	B – 3
TP3LL	A – 4
TP3RR	A – 4
VR756	A – 1
VR3000	A – 4
VR3001	A – 4
VR3002	B – 4
VR3003	B – 4
VR3010	A – 5
VR3011	A – 6

PCB-POWER-SUB 2〔SOLDER SIDE〕



PCB-POWER-SUB 2〔COMPON

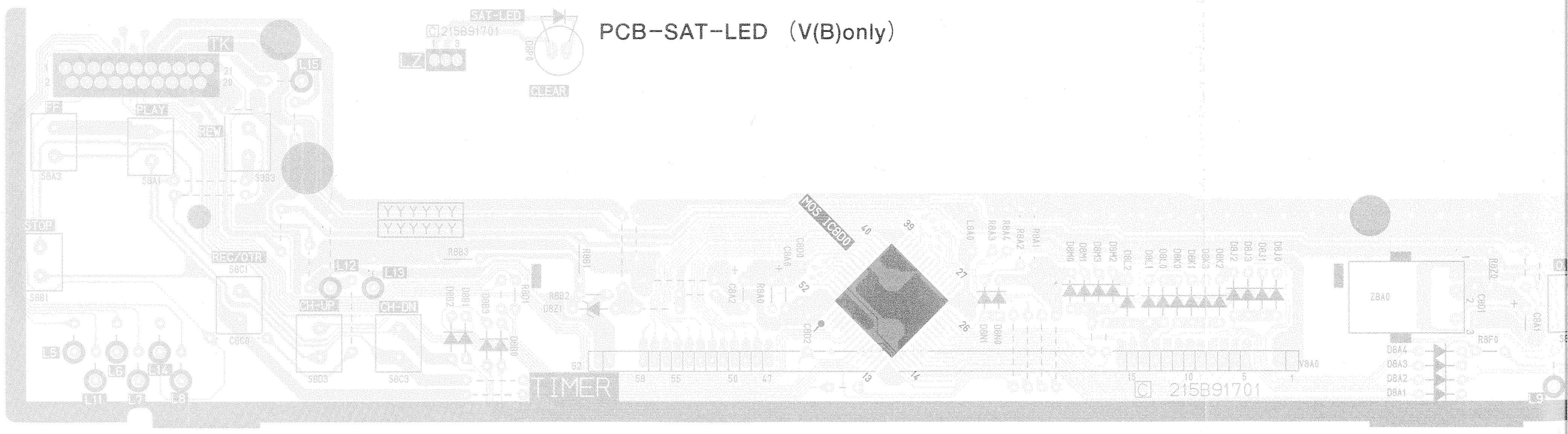


〔COMPONENT SIDE〕

SYMBOL NO.	ADDRESS
L7A1	A – 5
L7A3	A – 6
L7C0	B – 5
L7C1	B – 5
L7C2	B – 4
L7C3	A – 5
L7C4	B – 5
Q3100	A – 1
Q3101	A – 1
TP74	A – 6
TP75	B – 6
TP1R	A – 5
TP3L	B – 3
TP3M	B – 3
TP3R	A – 1
TP3W	A – 3
TP3X	A – 1
TP3Y	A – 4
TP1RR	A – 5
TP3LL	A – 3
TP3RR	A – 3
VR756	A – 6

SYMBOL NO.	ADDRESS
VR3000	A – 3
VR3001	A – 3
VR3002	B – 3
VR3003	B – 3
VR3010	A – 2
VR3011	B – 1
X701	B – 6
X7A0	B – 5

PCB-TIMER



PCB-TIMER

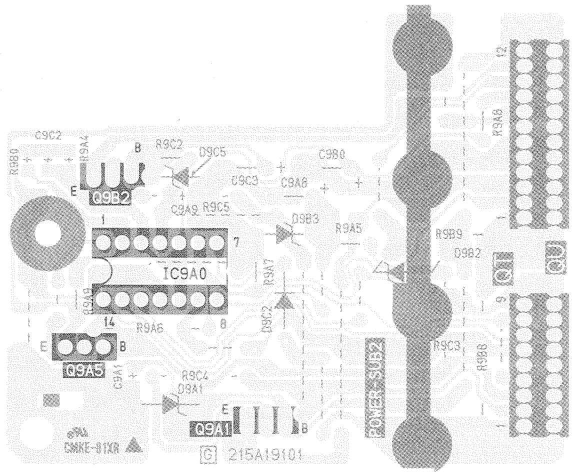
ADDRESS
A – 6
A – 6
A – 6
A – 6
A – 6
A – 5
B – 6
B – 6
B – 6
A – 6
A – 6
A – 6
A – 6
A – 6
A – 6
B – 5
B – 4
A – 6
A – 5
A – 6
B – 6
B – 6
B – 6
B – 6
B – 6

SYMBOL NO.	ADDRESS
R3410	B – 6
R3411	B – 6
R3412	B – 6
R3413	B – 6
R3421	B – 4
R3501	B – 4
R3504	B – 4
R3505	A – 4
R3506	A – 4
R3561	A – 6
R3562	A – 6
R3900	A – 4
R7A1	A – 3
R7A2	A – 3
R7A3	A – 3
R7A4	A – 3
R7A5	A – 2
R7A9	A – 2
R7C0	B – 2
R7C1	B – 2
R7C2	B – 2
R7C5	B – 3
R7C6	B – 3
R7C7	A – 3
R7C8	A – 3

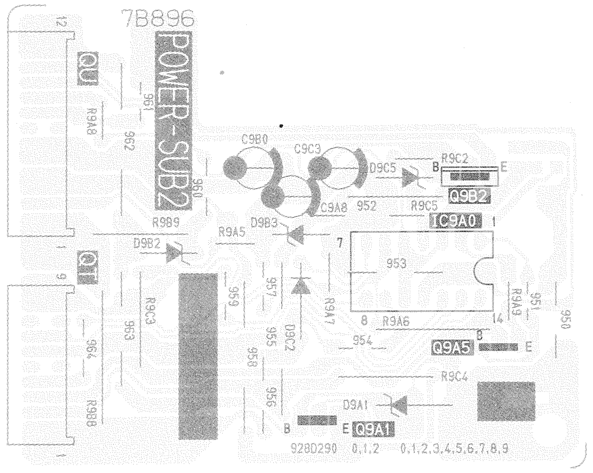
SYMBOL NO.	ADDRESS
R7C9	A – 3
R7D0	A – 2
R7D1	A – 2
R7D2	A – 2
R7G2	A – 2
R7G5	A – 2
R7G6	A – 2
RJ3001	A – 6
RJ3002	A – 6
RJ3003	B – 4
RJ3005	A – 6
RJ3006	B – 1
RJ3007	B – 6
RJ3008	A – 6
RJ3009	B – 4
RJ3010	A – 5
RJ3017	A – 6
RJ7A0	B – 3
TP75	B – 2
TP3L	B – 5
TP3M	B – 4
TP3R	A – 6
TP3W	A – 4

SYMBOL NO.	ADDRESS
TP3X	A – 6
TP3Y	B – 3
TP3LL	A – 4
TP3RR	A – 4
VR756	A – 1
VR3000	A – 4
VR3001	A – 4
VR3002	B – 4
VR3003	B – 4
VR3010	A – 5
VR3011	A – 6

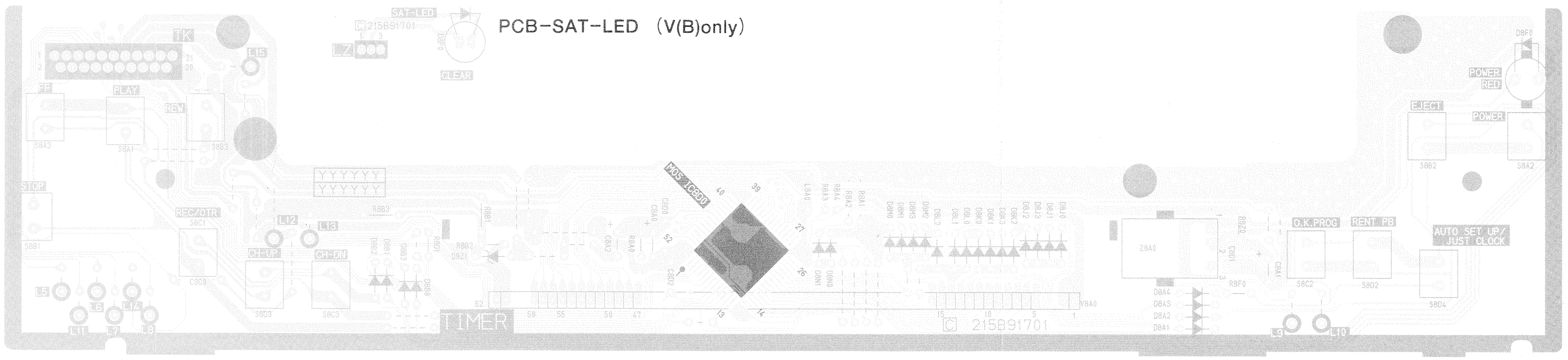
PCB-POWER-SUB 2 〔SOLDER SIDE〕


IC9A0
Q9B2
Q9A5
Q9A1
POWER-SUB2
215A19101
CMKE-81XR

PCB-POWER-SUB 2 〔COMPONENT SIDE〕


7B896
POWER-SUB2
IC9A0
Q9B2
Q9A5
Q9A1
928D290

PCB-TIMER


SAT-LED
215B91701
CLEAR
TK
FF
PLAY
REW
STOP
REC/OTR
CH-UP
CH-DN
IC8D0
TIMER
215B91701
EJECT
POWER
POWER RED
O.K.PROG
RENT PB
AUTO SET UP/ JUST CLOCK

PCB–SAT–LED (V(B)only)

PCB-TIMER